

RURAL WORLD

COLMAN'S

Read the Rural World

ESTABLISHED 1848

SAINT LOUIS, THURSDAY, JUNE 17, 1881.

No. 25, Vol. XXXIV.

Sorgo Department.

The Rural World is the only journal in the United States having a special department devoted to syrup and sugar making from sorgo.

The Cane Mill Controversy.

COL. COLMAN: In continuing his onslaught in the RURAL of June 9th, Mr. Hedges does not deny (because he cannot) the masters for whom he works and the dark methods he has been privately using for months past to injure us, as revealed in his former communications. His failure to deny it under the circumstances amounts to a full admission, his hypocritical pretense that his attack on us was for the public benefit will not go down with your readers. It has resulted in public benefit by showing how much reliance is to be placed upon his opinions and statements where his private interests or those of his employers are concerned, and by calling attention to the merits of our mills and inducing many to buy them who would not otherwise have heard of them. But that was far from his intention. His object in commencing the attack was to check the sale of our mills and increase his own sales; but the thing has not worked as he expected it would. He took a larger contract, when he undertook to kill our mills, than he can carry out.

We cannot reconcile the two letters of Mr. Burns any more than Hedges can, but would say in reference to the last letter that it contains some compliments for our mills that Hedges probably overlooked, or he would not have published it. Burns says that he ran our "Croncher" with a steam engine for 5 years, and finally broke it by letting a piece of wood fall into it while grinding. Now, our "Croncher" mill is a horse mill, not adapted nor intended for steam, and never recommended nor sold by us as a steam mill. That Burns could run it five years by steam, without the springs, as a rigid mill, on Louisiana cane, without breakage, and only broke it finally by attempting to grind a block of wood, is a stronger testimonial than Hedges can bring for any of his horse mills. Is it not remarkable that Hedges and his fraternity, in all their frantic and protracted searches, have not been able to find a single mill of ours broken in legitimate work, but the two or three cases of breakage they have been able to dig up from the lapse of years were produced by blows of a sledge or grinding blocks of wood? Hedges has thus unwittingly given our mills a stronger testimonial than can be produced for any other mills made in this country. If we should choose to use his kind of tactics and search for broken mills of the kind he sells, we could find plenty of them, both horse and steam mills, that broke down in legitimate work. We have quite a long list of them now that came to our knowledge without searching, and we will furnish him the list if he will publish it in the RURAL.

Mr. Burns' assertion that our mills do good work without the springs, knocks the life out of Hedges' assertion that the springs are necessary to save the mills from breakage, and confirms our assertion that they can be used either as rigid or flexible mills at the option of the purchaser. Most purchasers prefer to use them as flexible mills, when they learn by actual experience how many advantages flexible mills have over rigid ones. If Hedges knew more of what he was writing about, we think he would not make so many random and false assertions as he has in his last assault. Though some of his assertions he must have known to be false when he made them. For instance, he says "all sugar engineers and practical planters look upon our mills as little better than a fraud." There are a great many sugar engineers and planters in this world. Has he consulted all of them on this question? He knew such a sweeping statement was false. There are some thousands of sugar engineers and planters in various parts of the world who are using our mills. Had he consulted even all of these on this question? Of course not. He knew the statement was false when he made it. He cannot name ten men out of these thousands who have used our mills, who consider them a fraud. We will engage to name ten men who consider the mill he sells a fraud, for every one he can name who considers our mills a fraud. Moreover, he has read the testimonials of planters in favor of our mills. His assertion, if true, would

make every one of these men liars. He made the assertion knowing it to be false.

He is just as lame in trying to prove that we have made untruthful statements. For instance, he attempts to show that we have contradicted ourselves in saying April 18th, that Cushing sold our "croncher" mill, and in saying May 27th that all he sold in the shape of steam mills was two or three of those old "leviathan" sorghum mills. If he had referred to our catalogue he would have seen that our "croncher" was not a steam mill in any sense and was never advertised nor sold by us as a steam mill, but is a horse mill with sweep cap for horses; and he would have seen that there was no contradiction whatever in our assertions. Did he see this or did he intentionally try to mislead his readers?

Then again Hedges seems to be greatly troubled because an old catalogue of ours states that we made 30 sizes of mills, while a later catalogue states that we make over 70 sizes, and he professes to think that our statements are not true or else that the bulk of our patterns were made within a year or two. But it simply proves that he did not know what he was writing about. The facts are these: we have made new patterns and added to our sizes and styles to meet the wants of the various countries that demand our mills, and to embody the various improvements which we are constantly making every year since 1871, when we entered into the tropical trade. Our catalogues are printed from stereotyped pages as we issue very large editions of them in several languages. When the pages of our old catalogue were stereotyped we were making over thirty sizes, and so stated. The number of our sizes increase from year to year, but as we always endeavor to understate, rather than overstate sizes, capacity, weights, &c., we did not change our stereotyped plates each year to keep up with our increased number of sizes—but when we issued a new and enlarged catalogue and made new plates for it we stated the number of sizes we then made, which was over seventy. But that Hedges may be fully informed on this subject we will state that our list now contains eighty-one sizes, and we have several sizes of new patterns not yet on our list, and we expect to increase this number yearly to keep up with the progress of the times. Is there anything wrong about this?

Hedges wants to know "if the mills you now advertise have all been devised in recent years, what security has the public that these experiments are better than the first." We reply, the same security that they have that the reapers of to-day are better than the first McCormick reaper; that the sewing machine of to-day is better than the first Howe machine; that almost every kind of machines that can be mentioned (except the mills that Hedges sells) have been greatly improved in the last twenty years, and that improvement is still going on and will go on as long as the world lasts. We are simply trying to keep up with the progress of this progressive age, while Hedges is living in the past and trying to sell mills that the old Niles Co. devised some forty years ago, and trying to make capital out of the reputation they then gained, and seems filled with astonishment and indignation that anybody should presume there could be any improvement on those old superannuated machines. Mr. Hedges, a great many things have happened in the last forty years. Railroads have supplanted the old-fashioned stage coach, the telegraph and telephone have come into use, and sugar mills have been improved. Where have you been sleeping that you cannot see these things? Can you point out any improvements that have been made in the last twenty years in the mills you are selling? You know that more or less of them break down every year, yet can you show any effort to strengthen and improve them?

Again, Hedges says that our seventy sizes is more than double the number made by any other house in the world, we know to be untrue. Now, we know something of what the manufacturers are doing, and in our foreign trade we are brought into direct competition with the manufacturers of England, Scotland and France, and have yet to learn of a single house that manufactures thirty-five sizes of sugar mills. If he can name such a house we will be thankful for the information, and until he does so, a little more modesty in making statements will become him.

Again, the weight of our mills seems to be a source of unhappiness to him. We endeavor to understate our weights rather than overstate them, as certain manufacturers do. Besides we put the iron where it is needed, and use wrought where others rely on cast iron. Hence it is that he and his fraternity have, by long searching, been unable to find any of our mills broken in legitimate work, while hundreds of rigid mills, such as he sells, have gone to the scrap heap within a year. He brings up an old fashioned Niles mill to confound us. Now we happen to have on our desk at this moment a piece of a Niles mill roller that broke down in the midst of work last month, and hindered its owners nearly a month, and it is just eleven-sixteenths of an inch thick. If the rest of the mill is in the same proportion how much does it probably weigh, and how will its actual weight

compare with its published weight? Is it any wonder that such mills break? Is there not plenty of room for improvement in them to bring them up to the times?

Possibly Hedges may have conceited enough to think he knows more about our business than we do ourselves. The assurance with which he makes reckless and false statements about it would indicate either such a conceit or remarkable disregard for truth. For instance, he says we know we cannot make a \$10,000 cane mill. If he will favor us with a visit we will show him our patterns, not only for a \$10,000 mill, but a \$15,000 one, and ample facilities for making them. If he will come soon we will show him on the stocks, and now being built, a five foot mill (our Cuba No. 21), a three foot mill for Kansas, and then other steam mills for various parts of the world, later in the season when the rush for the home trade is over, we hope to be able to show him a \$40,000 set of sugar machinery for the West Indies, the contract for which we are now negotiating. Perhaps our factory may not equal his grand ideas, but we find it very convenient for our purposes, and fully capable of producing anything we advertise to sell. If he doubts it let him send us a responsible order for anything in our catalogue, and watch the result. GEO. L. SQUETTER & BRO. Buffalo, June 18th 1881.

Letter from J. Billington.

COL. COLMAN: Please find herewith four dollars, part for one year's subscription to the "RURAL," the balance for copies of the report of last year's Cane Growing Association. I wish, if it is possible, to obtain a copy or two of the RURAL of September 3d, '79, or even one copy of that date, containing an article on "cold defecation of cane juice," written by myself. I have loaned out and lost my manuscript copy of the article sent you, and I am continually asked for a publication of it and to give my latest experiments and improvements with description of plans, etc., of working it. As I cannot possibly, in my present situation, write or attend to the request of our sorghum friends, I must try and give them one more plain talk, with the understanding that I do not continue the manufacture of sorghum. My health and time will not permit.

We made vast and important improvements in the manner of the cold defecation of the juice, that few know anything about. We would merely remark just now (if you will please allow us in your valuable paper) in reply to several of your RURAL readers and friends, that, the boiling of green juice is the death of it. It is not the lime altogether that discolors the pure juice, but the boiling in of the coloring matter expressed out of the rind of the cane. There is no use to dispute or doubt, this positive fact; take one or two fresh, healthy canes, peel off with your pocket knife, or anything else, the rind from the juice pith, express the juice from the pith thus divested of its coloring matter, and other foul matter contained in the rind, put a drop or two of the milk of lime to it, and see how much the lime will discolor; try it by boiling in a cup on the stove; test the matter fairly and see. Time is lost and the syrup injured more or less by boiling before cold defecating this coloring matter out of it, and all the foolish twaddle about the action or re-action of lime, I have found fallacious. Let any unprejudiced cane grower, or any other man test the truth or falsity of this, by taking a bucket or two of fresh cold juice as it comes from the mill, without going through any filter process of hazel or box, put in a box or pan sufficient large to hold it, make up a solution of light clay grout, dropping in a little milk of lime and pour into the cane juice, and mix altogether, let it stand until settled and draw off from top, let me then how much the lime has colored your juice; now take the same juice and clay mixture and try it without the lime added, and see the difference. In either of these methods, you have a far superior defecation of the juice than any new fangled patented theory yet brought out, and costing nothing but good common sense and judgment to use it, you have (as hundreds who have that have tried it) without any further defecation or deodorizing, a purer, better article to boil down for syrup than any other you can procure up, or buy patent for. I care not what others may say to the contrary. The proof is the demonstration of the fact, or the demonstration of the fact the proof, any way you may please to want it. I have no axe to grind, nor intend to do the grinding of others. Plain common sense, with good, clean, close attention in every department from first to last, is wanted or needed by all, with plain copper pans to finish in, from the defecating box or pans (if no further refining of the juice is wanted, for I do not wish to be understood as saying that cold defecation with clay

is all-sufficient, and takes all the impurity out—by no means—but only where a good, pure, colorless syrup is wanted, and give a defecated juice that is far superior and easier to be refined after, and cheaper than by any method yet discovered. All the sloosh talk about this pan or the other patent sugar evaporator, is all vapor and bosh talk. It is not in the pan to make syrup or sugar; plain cast iron pans will do, if you have and will keep them bright and clean. Galvanized iron will do if you will keep it clean, and not burn it, but the trouble is, so few will take the trouble to keep either of the kind of pans clean as they are required, to be to be successful with them. Good heavy copper pans (plain sheet-bottom) with wooden sides, cost more it is true, but they are cheapest in the end, and best, and last the longest, and are the easiest to keep clean of any, and can be used after for apple butter or other uses beside.

J. BILLINGTON

Syrup Coolers and Graining Tanks.

The repeated inquiries for a plan of coolers for syrup has induced me to give through the RURAL WORLD a simple plan that may be of use to many. It is well known that to let hot syrup rest in a body without stirring it, will darken very much and change flavor also. This is caused by what is termed steam burning. To avoid this the syrup must be stirred, or, as a cheaper method, allowed to flow over a surface in a thin stratum sufficiently long to reduce the temperature to about 150 deg. Twenty years ago I used shallow copper pans some 20 feet long and 10 inches wide with flowing water under them. This was a success, but only feasible in a few places for the want of water. Next to this I would construct a series of shallow troughs, of seven-eighths clear-pine, 12 inches, more or less, in width with one inch ledges, and of such length as the room in the works will admit. Place these upon an incline in a zig-zag position, one above the other. The first of less incline than the next below, and thus increase as they succeed each other, because the syrup will run slow as it cools. It may need 4-6, or more, according to their length. The flows to the lower end pass through a suitable opening and return on the reverse trough, and so on, until cooled sufficiently for barreling or tanking; such cooling rack should be shrouded with a wire screen to prevent flies or trash that is often flying about from being incorporated in the syrup. This is often so prevalent in syrup as to materially injure its market value. There should be a fine wire screen or sieve placed at entrance to the cooler through which to pass the hot syrup to catch every speck if possible. The size of these of course will depend upon whether the flow of syrup is from a strike pan of batches or a continuous flow, and if the former, the magnitude of the strike.

For one of a continuous flow, the planes may be 6 inches wide, and if 30 feet, entire length, I think it will be found sufficient. I have used one 32 feet long and 1 foot wide, drawing a strike of 40 gallons in five or six minutes. I had several lots of good quality of syrup sent me for sale last winter, that I could only get 25 cents per gallon, that would have sold for from 35 to 40 cents, had it been free from such impurities as may be removed by such careful attention. These little details must not be overlooked. The matter of graining tanks for those who are intending to do only a limited business, I would recommend the use of good cypress barrels, and put the syrup in them as before stated, at not above 150 degrees Fahrenheit, or below 120 degrees, then bring it up and keep it in as warm a place as possible. If it possesses the quality for granulation you will get it, if not, it is in good condition for sale or shipment without further expense or trouble. The best results like those of Bogarth of Iowa, and Eli Guess of Ohio, Col. Boynton, of Texas, Porter and others of Minnesota, were obtained last season by low boiling. By low boiling we mean only for good heavy syrup, say 12 pounds per gallon when cold. It would show 33 degrees B. when hot, or 228 degrees F. in this altitude. Now should this grain, it will be larger crystals, lighter color, and the molasses of good merchantable quality. If the syrup granulates sufficient to swing out 40 per cent like Bogarth, from Amber cane, 55 per cent, like that of Guess, from Orange cane, it will run out of a large molasses gate, if kept in a warm room. Such melado will command a good price at those large works having centrifugals and vacuum pans. I have no doubt our refineries will buy such by samples, after polarizing to find its value. I trust this will answer the many inquiries made me.

I. A. HEDGES.

Letter from John B. Thoms.

COL. COLMAN: We have many inquiries, especially from Kansas, in reference to a new method for evaporating cane juice, which is now being introduced to the attention of cane growers in the west. The inventor, Dr. Morrell, claims he is going to revolutionize the sugar world, dispensing with the vacuum pan entirely as a useless piece of machinery. It would benefit western cane growers if the doctor could name some sugar plantation where his process is in successful operation. It was tested in Cuba a few years ago on the Santa Teresa estate, at Melena del Sur. We have associated with us this year, Augusta Heyn, who was sugar master on the San Jose, an adjoining estate. He reports that the doctor failed to sustain his claims, and no large quantities of vacuum pans have been thrown in the market to be sold for old metal. We have heard of no place having adopted his apparatus.

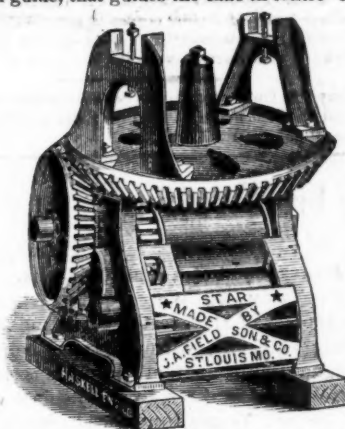
The writer was requested to represent Mr. Bradish Johnson, a sugar planter of Louisiana to attend a trial test of the process at Brooklyn, N. Y., which proved a complete failure.

Now let me say to those interested in business, a man having so valuable an invention would not need to seek the far west to develop its merits. He could realize thousands in the old sugar producing countries while he was gathering dollars here, and would find quicker appreciation for his wares.

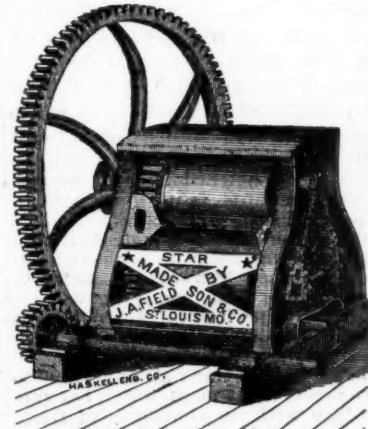
JOHN B. THOMS.

Star Cane Mill.

Special attention is called to the Star Cane Mill, manufactured by J. A. Field & Co., St. Louis, Mo., advertisement of which appears in another column. Among the many points of superiority of these mills over others, we notice the novel feature by means of which the removal of an screw, the scraper or feed guide, that guides the cane in centre of



mill, can be removed and replaced without taking the mill apart. The journal boxes can also be removed and replaced without taking the mill apart, simply by unscrewing one nut. These features have never before been combined in a mill. The advantage derived from these improvements will be appreciated in case of breakage or wearing of boxes as well as the quick and speedy remedy in case the mill becomes clogged between the rollers.



The greatest advantage to be claimed for these mills, however, over all others is in overcoming the difficulty caused by broken particles of the cane stock lodging on the inside of the mill, these particles while they may not cause any difficulty in the operation of the mill, if left over night, will sour and spoil the first batch of next day's grinding. By removing this scraper or feed board the mill can be quickly washed out, all these particles removed and the mill kept clean and sweet.

These mills are much heavier and stronger and are nearly double in capacity to any other mill of similar price. The best evidence of the great merit of these mills is their rapid growing popularity and the increasing demand for them from every State in the Union and foreign countries.

The firm also make evaporators and a full line of sugar makers' supplies.

Send to them for a price list and a copy of their treatise on the planting, cultivating and manufacture of sugar cane, which they furnish free.

Sorghum Notes.

We shall be pleased to receive letters from sorgho growers, giving us the prospects of the crop, and any items about putting up mills, for the manufacture of sugar and sirup. Those who are cultivating sorgho this year, ought to be considerably in advance of what they were last year. Let us hear what is going on throughout the country.

EDITOR RURAL WORLD: I recently became a subscriber of your paper for the express purpose of gaining information from the sorgho department.

In your paper of May 19th, O. H. Hawk says: "Many who seek information from the sorgho journals are confused." Now, that is just what all me, in part, at least. Again, I fail to understand some of the terms used by some of your correspondents. What does O. H. Hawk mean when he says "we believe it a foregone conclusion that the policy of the Cook pan expires with the patent?" Does he mean that the patent has expired, or that there is a better method of cooking sirup, or both? Again, what does he mean by "gum zone?"

I presume all these terms are well understood by experts in the sorgho business, but if the ideas were given in more common expressions, or were explained, it would certainly be appreciated by many readers. E. B. HYDE. Vernon Co., Wis.

Agricultural.

Letter from Texas.

EDITOR RURAL WORLD: Please find enclosed \$1.00 for subscription to RURAL WORLD. I read the RURAL WORLD in 73, in St. Francois Co., Mo. I was boarding with Mr. Arenz, and he was taking the RURAL.

It may be thought by a great many that we would not have any use for an agricultural paper in this part of Texas, but it is a mistake. We are farming some here. There are something over 700 men, women and children in this county; the most of them are farmers. The crop here is mostly corn and cotton, and looks fine; the corn will hide a horse. The salt fork of Brazos river runs through this county, with scarcely any timber on its banks. This county is mostly all prairie, is red sandy nearly all over the county; lies in bodies mostly level and rich, on which are large prairie dog towns that contain thousands of dogs. The land is worth from \$1.00 to \$3.00 per acre for raw land. Grass is good and cattle are getting fat. Seymour is our county town, a thriving village with about 150 or 200 inhabitants.

I could write for hours about this part of Texas, but I will close for the present hoping to receive the RURAL WORLD soon. Yours respectfully,

JOHN PRICE.

Round Timber, Baylor Co., Texas.

Hard on the Farmers.

A city exchange gives the following advice to farmers:

"Hard times must be overcome by farmers by hard work, hard study, hard thinking, and the hardest kind of economy."

The advice is good, but the inquiry naturally arises, why should times be so hard upon farmers? Why should they be compelled to work so hard, study so hard, think so hard, and practice "the hardest kind of economy?" Why is it thus? Is it because they are compelled to bear an undue proportion of the taxes which go to support the government? Is it because they do not get a fair proportion of the values created by their hard labor? Is it because they have no voice in fixing the price of the products of their skill? Is it because every other profession is combined to get as much out of the farmer for as small a consideration as possible? Is it because all other classes have their own peculiar organization and co-operation makes it easy to fleece the isolated farmer?

These are pertinent questions, and it would be well for farmers to weigh them well, and determine if there be any way that they can better their condition save by "hard work, hard study, hard thinking and the hardest kind of economy."

It is very easy for city editors to instruct farmers as to the best way to remedy hard times. But suppose farmers were to undertake to instruct city editors as to their duties. Suppose farmers were to undertake to instruct lawyers, doctors, merchants, and others as to their affairs, what then? Why they would be told to mind their own business. And yet every "penny-a-liner" in the city, who is ignorant in all matters of farming, who would not know whether to hitch a team to the beam and handles of a plow, thinks he is capable of giving valuable advice to the farmers. And they (the farmers) are silly enough to believe that because the editors have charge of newspapers they are very wise.

Farmers, it is time that you conclude that city editors of newspapers can give cheap advice, and it is very easy to say work hard, study hard, think hard, and practice the hardest economy—but this is not all. Organize! Organize!! Organize!!! Combine! Combine!! Read more agricultural journals and fewer political sheets. Mind your own business and tell city editors to mind theirs, and it will be better for you.—Virginia Granger.

The Peper Tobacco Warehouse Co., J. N. C. Crouch Manager, reports to the RURAL WORLD the tobacco market for the week ending June 17th, as follows: Receipts, 380; deliveries, 268; Sales 181 bbls. Market still strong on good burleys. Of dark english dry leaf considerable sales have been made within the past three weeks.

The Grange.

[The Rural World welcomes to the Grange Department communications from Missouri and all parts of the Mississippi Valley from members of the order. Brief notes of what is going on in the order, or any matters pertaining to it will be cheerfully published.]

Official Grange Paper.

At a meeting of the executive committee of the Missouri State Grange, held in the city of St. Louis on the 3d day of December, 1889—all the members being present—it was agreed to accept the proposition, submitted by Col. Norman J. Colman, for publishing the official grange communications in the RURAL WORLD during the two ensuing years.

A. M. Coffey,
Secretary of Executive Committee.
Knob Noster, Mo., December 6, 1889.

Rolla State Grange Resolutions.

The Missouri State Grange, at its late session at Rolla, unanimously adopted the following:

Whereas, COLMAN'S RURAL WORLD was one of the first papers in Missouri to espouse the grange cause, and to urge the farmers of the State to organize themselves into granges; and

Whereas, It has ever been the faithful, earnest and consistent friend of the grange and of the agricultural classes of the State, zealously laboring to advance every agricultural interest and to elevate the profession of agriculture to a higher standard; therefore, be it

Resolved, That the Missouri State Grange cordially indorses COLMAN'S RURAL WORLD and recommends it to the support of the Patrons of Husbandry of the State of Missouri.

The Danger at the Door.

The telegraph lately announced that Mr. Villard, of the Oregon transportation pool, which has captured the Northern Pacific Railway, has, in company with Horace White, formerly of the Chicago "Tribune," bought the New York "Evening Post," which it is proposed to place under the editorship of Carl Schurz. If this shall be accomplished it will give the control of three of the great newspapers of New York, all members of the Associated Press, to men who are interested solely in increasing and consolidating the power of the great corporations of the country.

The "Tribune" and "World" are already controlled by Jay Gould; reinforced by the "Post," whose mission of supporting and defending monopolies will be the same as theirs, and a powerful newspaper triumvirate is established whose batteries will be turned on the people without cessation. There never was cause for such alarm or such a demand for a general awakening of the people to the danger that threatens them from grasping corporations as now.

A pamphlet recently issued and addressed to bankers and investors, and others interested in the securities of the Union Pacific Railway Company, as well as railroads directly and indirectly under the control of its leading officers, reveals some startling facts that will interest the public at large. Quietly, but certainly the manipulations of Jay Gould and his associates have gone on until they control nearly all the roads of the country. Notice how the names of two or three gentlemen figure in the list of directors: Take first the Union Pacific, and among its officers we find Sidney Dillon, Russell Sage and Jay Gould. The Missouri, Kansas and Texas, which has just placed bonds to the amount of \$45,000,000 on the market, has among its directors Jay Gould, Russell Sage and Sydney Dillon. The central branch of the Union Pacific, which has just placed \$6,000,000 in bonds on the market, has for its principal officers Sydney Dillon, Jay Gould, and Russell Sage.

The Wabash, St. Louis and Pacific exhibits the names of Sydney Dillon, Jay Gould and Russell Sage. The Delaware, Lackawanna and Western has for directors, Jay Gould, Sydney Dillon and Russell Sage. Hannibal and St. Joseph, Jay Gould and Russell Sage. Central Railroad of New Jersey, Sydney Dillon and Jay Gould. St. Louis, Iron Mountain and Southern Railroad, Jay Gould, Russell Sage and Sydney Dillon. Jay Gould has just received control of the International and Great Northern Railroad, and his favorite associates will no doubt soon figure as directors. In April last Jay Gould gained control and succeeded to the control of the Texas Pacific Railway, and it is understood that he and his associates control the St. Joseph and Western, running from St. Joseph to Grand Island, Neb., a distance of 289 miles. These are only a few of the roads in which Mr. Gould and his friends are largely interested. How many others are really controlled by them the public may not know until some fine morning when the former feel disposed to put on the screws, freeze out the minority stockholders, or show the people that having the power to regulate rates they propose to ruin a town here and there, squeeze the farmers of the west out of their hard earnings, or build up one city at the expense of another.

It is easy to see how this syndicate is able to go on purchasing roads and adding to their already enormous powers. They are recognized as successful managers and manipulators, who, if they choose, can largely increase the carrying trade and earnings of any road, turning it into a feeder or an outlet for the roads already under their control. They find an independent, broken-down railway with stock at a mere nominal price and purchase it. The stock is then doubled or tripled, or, as in the case of the Missouri Pacific, increased 15 1/2 times; blank mortgage bonds are also issued, and the stock and bonds are thrown on the market. The names of Gould, Sage and Dillon give these securities a fictitious value; they sell at a high price and millions are realized with scarcely an effort.

"The Inter-Ocean" is not pretending that these men resort to practices that others would not resort to under similar circumstances or with like opportunities. It is not advising them for taking advantage of the chances offered them; but it is calling public attention to the lax condition of our laws, which permits enormous speculations of this kind on a fictitious basis; to the system that permits watered stock to any amount to be

issued, and thus places a power more dangerous than the presence of a standing army in almost every State and county in the entire land.

Talk about the patronage of the president! Why, the word of Jay Gould can turn a hundred thousand men into the street, or give employment to a hundred thousand others, any day. The vast lines of telegraph are owned by him. Every newspaper in Chicago pays tribute and toll to them. Gould's order would be sufficient to disturb their news facilities, and damage them almost irretrievably.

Mr. Gould may be as scrupulous as he is enterprising; he may have the broadest ideas of tolerance and liberty of opinion, but no man or set of men can be the safe custodian of such enormous power as he and his few co-workers wield. It is a menace to the welfare, the liberty, the prosperity of the country, and if the people do not awaken to the danger very soon, they may find themselves helplessly bound when they finally become conscious of their danger. No legislature, no organization or body of men having the enactment of laws in its keeping, is safe from the influence of these ambitious and far-reaching speculators. They laugh at legislators, for they are confident of their ability to control them. The only power they respect is that held by the people, which, when aroused, makes or unmakes presidents, cabinets, congresses, and even railway kings. But even this power may be held in abeyance too long, and arouse only to find its strength departed.—Chicago Inter-Ocean.

Subjects for Subordinate Granges for July.

Question 13—How to best preserve summer fruits and vegetables for winter use?

Suggestions—Best method, considering health and economy. How best to preserve their flavor? What temperature keeps it best and longest? Our worthy sisters should take a deep interest in this question.

Ques. 14—Transportation: How does it affect the farmers?

Sug.—Agriculture furnishes 80 per cent of inland commerce. On every dollar of exportation rates farmers pay eighty cents, a railroad may cost \$1,000,000. Reasonable dividends on this amount for profit would be right. But corporations add by adulterated stock—"watered"—from forty to a hundred per cent, then claim dividends, say, on \$1,800,000, instead of \$1,000,000. Hence we pay \$1.80 for \$1.00 worth of services. Consolidated capital in the hands of corporations is used to oppress agriculture, and all other industry. Profits on agriculture are reduced to the average of about one per cent per annum on capital and labor, while incorporations make from 25 to 50, and even 100 per cent. How unjustly is the great wealth produced by the farmers distributed.

COL. N. J. COLMAN, please insert the name of the Master of the State Grange, and also his address in the RURAL WORLD. There is an old grange here that intends to start again. Yours truly, HENRY H. RUSSELL, De Kalb, Co., Mo.

The name of the Master is Henry Eshbach, Hanover, Mo.

The Hon. J. A. Dacus' illustrated Lives of the James and Younger Brothers, published by N. D. Thompson & Co., St. Louis, has reached a sale of 50,000 copies in ten months. The demand is wonderful. Book agents are reaping a rich harvest with it. 16-13

Buy the Improved Howe Scales—acknowledged the best made. Borden, Sellick & Co., general agents, St. Louis, Mo.

The Poultry Yard

Management of Young Chickens.

COL. COLMAN: We frequently hear the reports of the great destruction of young chickens, various causes being assigned, while in fact the loss is incurred, in most cases, by the neglect of the keeper. Young fowls need a certain amount of care, and if one is not disposed to give the attention needed, it is useless to try to rear them with any degree of satisfaction or profit. They should be kept warm, dry and clean, and at the same time they should have plenty of pure air. Unless there are but few and they have an extensive range, they should be fed every three hours from twelve o'clock in the morning and seven in the evening, and I know of no food more suitable than egg-bread.

Raw corn-meal dough is unfit food for young chicks. Neither is whole grain of any kind suitable, or at least until they are several weeks old. A chick, when hatched and for several weeks afterwards, is no more able to properly digest whole grain than a young infant is to digest meat and bread. Young chicks do not have small stones in their gizzards to assist in grinding their food; and if digestion is imperfectly performed, their bowels become disordered, and many die from no other cause than improper food.

Do not permit them at any time to have access to stagnant water, but supply them with an abundance of fresh, pure water, which should be kept in the shade. Do not permit parasites to gain the ascendancy, or you will have hard work or poor success. Fowls infested with parasites cannot be thrifty, and more especially young fowls.

During the day their hovers should be turned up that the sun may shine in, and purify them of the poisonous gases produced by their droppings. The hovers should be made so as to protect the chicks from rain, but sufficient ventilation should not be neglected.

G. W. PLEASANTS, Wright City, Mo.

A Big Henny.
A correspondent of the New England Farmer describes the henry on the estate of Mr. John W. Brooks, at East Milton, Mass., and the mechanical arrangements for hatching and rearing chickens: "The building consists of four ranges of coops, each 170 feet long by 16 wide. The southern side is provided with large windows, occupying nearly half the front side of the building, and also with sliding wooden ventilators, which can all be thrown open or closed together by means of a simple attachment of wire running the whole length of the building. There is room for 1,200 hens. The incubator used

is heated by a couple of lamps at one end; the eggs are in trays under a tank of hot water, and the temperature is regulated by a metallic rod over the eggs, which by its contraction or expansion, breaks or completes an electric circuit, which, acting on a clock-work escapement, gives power enough to open or close the ventilators. The machine is bulky and expensive, but it does very good work, having hatched from seventy to eighty per cent of the eggs placed in it. It holds seven hundred and fifty eggs at a time. The chicks, as fast as hatched, are placed in small paper boxes lined with flannel, and kept warm till they dry off, when they are ready for the artificial mothers. These 'mothers' are of wood, lined with soft woolen cloth for feathers, and their life's blood is warm water circulating from a heater. The chicks, however, take kindly to this sort of treatment, and huddle together under the pipes as contentedly as under the mother's wings. They are fastened in at night by a door of wire netting, and allowed to run, after a few weeks, in fine weather, out of doors in yards facing the south, in front of the coops."

A Good Living for Some Lady.

Any lady who desires to be independent and make a living by her labor, should put herself in communication with our business manager who has had consigned to him for sale a perfectly new and improved Lamb Knitting machine complete, with iron table, and all the necessary tools to make all kinds of knitted wove goods, from a mitten to give her lover, to a cloud to cover her blue eyes, and all that sort of thing. The machine has never been used, is in first-class order, makes all kinds of stitches, and being the best knitting machine made, recommends itself as being a good investment. The original cost was sixty-eight dollars, but this one will be sold for half that price. We have but one for sale. Address this office.

HEDGES' NEW BOOK.

COL. NORMAN J. COLMAN: Where can I get Hedges' book on the manufacture of sorgo? What will it cost? Address, J. S. McKINSEY, Caddo Grove, Johnson Co., Texas. Send \$1 to I. A. Hedges, 2004 Broadway, St. Louis, Mo., and book will be forwarded by mail. 16-13

Of Interest to Fruit Growers.

Of interest to fruit growers, that the money they receive from the commission men, on the sale of their goods, is in amount far from what was expected and in many cases so small as to be a hindrance to the laborer in gathering and shipping. It is owing to these continued complaints that a new venture has been made in our city of which we are pleased to note. It appears that the extra expense attending the sales of fruits and vegetables arise in a great measure from the custom of commission men having to pay large sums of money to the middleman, who goes out soliciting consignments; and as these sums have to be made out of the sales on the shipments, the returns to the growers are necessarily small. With a view of remedying this evil, the incorporated company of F. M. Zuck Commission Co., of St. Louis, have this season dispensed with the services of these agents and hence are able to sell all consignments to them at a charge of seven per cent, instead of the usual ten per cent commission; where-by their business has doubly increased, and their patrons are assured continued favors, which demonstrates the good judgment of this company, of whom it may be said there is no better, or any that can give more satisfactory references. 23-2

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For over 34 years Dr. Tobias' Venereal Lintment has been warranted to cure Gonorrhea, Syphilis, Rheumatism and Dysentery, taken internally, and Sore Throat, Pains in the limbs, Chronic Rheumatism, Old Sores, Pimples, Blotches and Swellings, externally, and not a bottle has been returned, many families stating that they would not be without it even if it was \$10 a bottle. Sold by druggists at 25c and 50c. Depot, 42 Murray Street, New York. 4-2400w

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THE VERY BEST MADE BY THE GALE MANUFACTURING CO., of Albion, Mich., Manufacturers of Chilled Plows, Horse Rakes and cultivators, of whom enquire for prices. Englewood, of whom enquire for prices. THE GALE MANUFACTURING CO., No. 1134 Broadway, St. Louis, Mo., will be promptly attended to. 23-4

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When you go to St. Louis, don't fail to go to

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And get a share in the

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TO FARMERS AND THRESHINGMEN. If you want to buy a new, reliable, and powerful horse power or engine (either Portable or Tractor), a new set of threshing, sawing or general purposes; buy the **Standard Reo** goods. The best in the market. For Price List and Illustrated pamphlet (sent free) write to The Standard Reo Co., Mansfield, Ohio. 15-500w

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Sprains

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PAIN-KILLER is the well-tried and trusted friend of all who want a sure and safe medicine which can be freely used internally or externally, without fear of harm and with certainty of relief. Its price brings it within the range of all, and it will annually save many times its cost in doctor bills. Price, 25 cents, 50 cents, and \$1.00 per bottle. Directions accompany each bottle.

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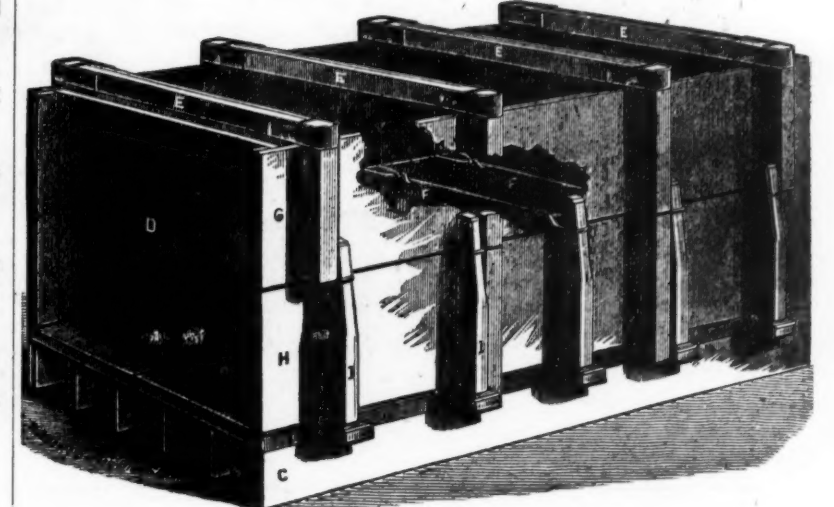
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Horticultural.

Edited by George H. Mann, Professor of Pomology and Forestry, Columbia, Mo. All communications for this department should be addressed to him as above.

Evergreens—Their Trimming and Training.

By Jno. A. Warder, M. D., president of American Forestry Association. Extracted from the Transactions of American Nurserymen's Association. Read at Dayton, Ohio, June 16th, 1881.

Mr. President, and Brethren of the American Nurserymen's Association: It is thus that one, who is not a practical nurseryman, addresses those who have so often received him in the most fraternal manner, and who have again and again listened with amiable patience to whatever he has had to offer them. And now, at the summons of our president, he again appears before you, perhaps for the last time, bringing his offering, trivial and unimportant though it be, in the hope that it may contain a small addition to the sum of human knowledge, which you are garnering for the betterment of those who may follow in your footsteps.

Nor is it pretended that in this paper a single original idea will be set before you—it contains only the views which have been happily expressed by others, and that may have already become familiar to yourselves, but which have been confirmed by the close observations of half a century, by one who was early taught to open his eyes that he might see. This is what he has seen:

Evergreens are those trees and shrubs that have persistent foliage, which retains its verdure and its vitality during the entire year, and often for many years. This persistent vitality is an interesting fact that has an important bearing upon the physiology of these plants, and hence our treatment of them will be different from that we apply to deciduous trees. The leaves, being considered the respiratory organs, are ever ready in this class of plants to carry on their functions. They act both in summer and in winter, and the plants may suffer from excessive evaporation through these organs when the roots are locked up in the frozen soil—and especially must they suffer after they have been disturbed by fall planting. This is often followed by death from exhaustion. Our attempts at planting in the autumn, particularly of large trees, have been so generally unfortunate that it is now seldom practiced. Small, young trees, may be moved at that season, because, being low, they are protected by being less exposed to the winds; but in this case, the earlier they are set out in autumn the better, so that the process shall become a late summer rather than an autumnal planting—and thus they have a chance to make new roots before the access of wintry weather, when, if they are mulched, or are covered with snow, they may come out all right in the spring.

The commonest, yes, and some of the rarest, but with us, far the greater proportion of evergreens, are conifers, needle trees, including the pines, spruces, firs, thujas, biotas, retinosporas, junipers, &c., but there are also broad-leaved evergreens, such as the oaks, the boxwoods, the hollies, rhododendrons, kalmias, magnolias, bays, aucubas and others.

The evergreen oaks are peculiar to the south of Europe and to our own southern States, where the live oak thrives near the sea-coast, but it does little good away from the salt air: even the evergreen willow-oak and the water oaks lose their evergreen character when brought to our latitude; the exotic evergreen oaks are not hardy here at the north. A live oak has attained to good size at Little Rock, Ark., and I have learned from Gen. Patrick, now residing near this city, that he had seen healthy trees at Independence, Texas, in latitude 30. Both of these cases cited are interior, and the former is separated from the sea-coast by some hundreds of miles.

The hollies are beautiful, especially for hedges, but they do not succeed in all soils, and have been very unsatisfactory to most planters in Ohio; with a milder climate and on humid, sandy soils, or near the sea-coast, they succeed admirably up to latitude 43 north. The evergreen magnolias cannot withstand our severe winters, though the grandiflora may escape for some years, and has frequently bloomed in southern Ohio. The magnolia glauca is hardy even in Massachusetts, but only a half evergreen. The same is true of the bays and aucubas, which are therefore underserving of our attention.

Rhododendrons, kalmias and their relatives are so peculiar in their requirements as to soil, that we who occupy the limestone regions, must forego the pleasure afforded by their lovely flowers, and their rich, green foliage, except when we import the soil adapted to their wants.

Evergreens are particularly desired in our country, not only because of their general absence from the native sylvia of our most fertile and populous regions, but also because of their beauty in the landscape, as both their forms and colors contrast with the hues presented by deciduous plants. They are

also highly valued for the protection they afford us against the wintry storms, whether planted as wind-breaks to the fields, or as shelter-hedges about our dwellings, both of which kinds of planting should be found on every farm that lies north of the fortieth parallel, and everywhere westward in the prairie States. Even here in Ohio, once so well wooded, it is high time that we should erect these barriers against the winds that sweep over the extensive and continuous clearings already made in the primeval forests.

TRIMMING.

Without detaining you with the further details, as to the various and numerous species of the coniferous evergreens, with which, as nurserymen, you must be familiar, and need not to be instructed by an amateur, let us proceed to consider the treatment which the little trees should receive while under your nursing care. With the planting, plowing and hoeing you are presumably familiar; but in regard to the trimming and training it may perhaps be well for us to consider the objects we have in view, and the best means to be adopted to insure the happiest results that should follow our well-directed efforts.

The object of all trimming of evergreens, but especially in the nursery, should be to shape the young tree and to thicken its twigs, increasing the amount of foliage. A similar design and a corresponding practice should be continued in the treatment of the trees of greater size when planted upon our lawns and in our parks. These they will most happily adorn, or unhappily disfigure, just as their owners appreciate and follow, or utterly neglect a few simple principles, which it is the desire of the writer to point out to the benefit, first of those who nurse and train the little plants in their infancy, and next, of those who are to purchase them and enjoy their adolescent and mature beauty, and their grandeur in after years.

The natural habit, or form, and mode of growth of trees should be a matter of study, and needs our consideration. Some species will most naturally form beautiful, erect, conical figures, and need very little care to produce such effect. Some are more ungainly and massy, and the nurseryman or park director do what he may in his attempts to torture them into the form or shape he may fancy, while others are as determined to grow so erect and fastigate as to be formal and stiff, resembling in the landscape, an obelisk or a post, rather than a conventional tree, which we always associate with branches, clothed with leaves to cast a grateful shade, and to protect us from the wintry blast, others have a weeping character, produced by the habit of their dependent or drooping branches and twigs, while again, not a few of our evergreens are procumbent, and even prostrate, trailing and creeping, without even attempting the erect mode of growth. Thus we find a great diversity of habit, something to suit every taste and fancy, and adapted to every variety of situation that may come under the treatment of the planter. These species, with such differing forms, may all come under the care and management of the same nurseryman, and will require peculiar and appropriate treatment; but all these variations of habit will be guided and directed by similar fundamental principles, which are to be observed and carried out in his nursing (or *Schöning*, as the Germans express it) of the young trees.

SHORTENING THE LEADER.

Can the leader of an evergreen be shortened with impunity, is a question that has been much discussed. This may be answered positively in the affirmative. It may be done whenever, in the judgment of the nurseryman, or of the arborist, he may find it desirable to check the too rampant growth, especially of those trees that throw out their laterals in whorls from the ends of the previous year's shoots. This may be done with the manifest advantage too of thickening the tree. The after-treatment will be indicated under another heading. For a long time there was a prejudice against such a practice, and some considered it vital to the tree to avoid such cutting, but we have observed the result after natural accidents resulting from storms, and from the lesions affected by birds or of insects; and we have seen the consequence, which is often a very happy one in the improvement of the tree.

As a rule, we all desire to preserve the leader intact, not only in the evergreens, but in other trees, and especially while they remain in the nursery, so long as the classification of the stock on hand is regulated by long-measure, feet and inches. But there is nothing peculiarly vital in the leader, as once supposed, nor can its destruction by any means be at all compared to capital punishment, though for a time the decapitated plant may appear rather forlorn.

In the timber plantation this kind of treatment should be avoided for two reasons: first, the liability to making the future bowl of the tree somewhat crooked, and secondly, the strong probability that when a tree in a plantation meets with an injury of this kind, it is subordinated to its fellows, and so overpowered by them as to be smothered and killed. Indeed this very plan of lopping off the upper portion of a part of the trees in a close plantation is a very common mode of thinning, in some European forests, where it has the merit of cheapness, and at the same time the remaining portions of the decapitated trees occupy and shade the stems of their neighbors, and the ground beneath them, so as to preserve the most favorable forest conditions, and they also assist the natural trimming of the boles of those which are left to form the future forest.

But this does not concern the nurseryman so much as the forester, it only illustrates a principle by antithesis, your object being to train and school young trees that shall be well furnished with lateral branches, while his aim, on the contrary, is to produce tall, erect shafts that shall be devoid of side branches, which depreciate their future value as timber material. When young trees make too free growth of leaders in the nursery, the best method in practice is to give them a severe root-pruning by using the tree-digger, with which you are all familiar.

By all means preserve the leader and only one, in all those trees which have a dense fastigate habit, and in those which you desire to assume a regular conical form in the disposition of their

branches. This is especially to be observed in the treatment of the upright shrubs, such as the Irish junipers and Irish yews, in most of the thujas and biotas, and in some of the retinosporas and cypresses. Even the beautiful hemlock tree often needs watchful care and judicious, masterly energy to curl its tendency to form rival shoots, while its beauty is more surely preserved by insisting upon a single leader. You should carefully cut back all such aspirants as venture to compete for supremacy. This should be attended to in the earlier stages of growth, that is in the nursery, as the contour of the mature plant would be seriously damaged by such treatment if practiced upon it at a later period; and a tree which has not been thus trained, is always liable to irreparable injury, whenever exposed to a storm of snow or of sleet, the weight of which may separate the several parts, that never again coalesce into a unit. Such trees are crippled for the remainder of their lives, and may as well be rooted out, since they have become deformities. Of course the treatment here so commended, nay, insisted on, will require watchfulness, care, and action on the part of the nurseryman, in the management of all such plants. The pruning must be done with the knife, thus exemplifying the force of the remark of the ancient gardener, who, when asked the best time for pruning, replied: "Whenever your knife is sharp," and pitifully added this sensible advice: "never allow it to become dull nor to remain so." The season is a matter of little importance in comparison with the act, when young and tender, the double leader may be snapped off with the fingers, at a later period it may be twisted and bent aside, or at once cut back to a stub, longer or shorter, but it should be made decidedly subordinate to the shoot selected as the leader.

TO GET A LEADER.

In some species it is often quite as difficult to get a leader, as it is to prevent the tendency to produce too many in those kinds we have just been considering. In others, the tender shoots that push from the terminal bud are liable to be broken off by storms, or by the weight of a bird that may alight upon it when watching for his prey, while in some species, the terminal bud itself is often killed, and a troublesome beetle, the *Pira pestis Zimmermanni*, (of Grote) named for a young colleague, C. D. Z., not infrequently destroys the leader in some pines.

In the group of evergreens first referred to, the difficulty is frequently observed in some of the firs, notably the *Abies pectinata*, the European silver fir, in the Nordmanni, and some others that become very unprofitable stock to the nurseryman in consequence of the length of time required for their schooling into the desired upright habit. They often remain for years in the form of low, flat-topped tables, apparently in perfect health and vigor, but scarcely advancing upward more than an inch in the season of growth. The purchaser need not be discouraged, about planting such trees, however, for eventually they will form a vigorous shoot that will then start off and ascend as many feet as the plant has before made inches. This is especially true of the beautiful *Abies pectinata*, which is densely clothed with silvery and deep green foliage, so persistent that it is retained for many years. The highly prized and more hardy *Abies Nordmanni* sometimes behaves in the same way, but we should not discard either species on this account.

The injury to the leader, sometimes done to the young shoots by storms, cannot very well be avoided, but it has been found advisable, in certain cases, to give them the support of a stake to which they may be secured temporarily while young by tying them with soft bast; the stake should project above the tip of the shoot, so as to be also a protection from the birds. For their convenience, and to save our trees from the injury they might inflict, it is well for the nurseryman to insert a stake here and there in the rows of these trees, for the especial accommodation of his bird friends, who will thankfully accept the upright position, or in the latter case, an approach to uprightness, and securing this by tying to a stake until the erect form becomes fixed, which will soon occur. In the case of the leading shoot being broken, any one of the whorl of laterals may be secured by tying it up to a small stick that has been first secured to the main stem, as a splint, below the point of injury.

In older trees, where accident has occurred to the main stem, or to the young leading shoot, it is surprising how soon nature restores the injury by directing the force of growth into one or more of the laterals, causing them unaided to assume the upright position of a leader. Unfortunately two or more laterals will sometimes strive for the mastery, when, if untruncated, would spoil the symmetry of the tree, and thus injure its prospective timber results, though to the eye of taste of the landscape gardener, such an abnormal growth might possess peculiar charms, as a variation from the regular type.

SHEARING EVERGREENS.—This expression is familiar to you nurserymen, some of whom insert the words in your catalogues, as a recommendation of your wares. This mode of trimming has the effect in some species, of thickening or multiplying the lateral branches, and thus of making the trees more compact, and perhaps better adapted for screen hedges; the nursery rows thus treated, certainly present a more snug and trim appearance than that of the ragged, unempt, uncared for plants of irregular natural growth, and shearing truly has the merit of cheapness and economy of labor; it is certainly better than no trimming.

It cannot be denied, however, that the judicious use of the knife in the hand of one who will exercise his eye

and his judgment in curtailing straggling growths, and encouraging the force of the plants in the needful direction, will insure much better results in well-formed and well-balanced trees. Even the immediate effect of such treatment on an open, straggling and natural young evergreen is a wonderful improvement to it, and after the removal of one-fourth of its projecting and scattering spray, the three-fourths left upon the tree, gives the effect of added foliage rather than of its removal. The same effect may be produced by a single shearing, it is true, but it cannot be so well done, and the cut ends will show, as they never should do after using the knife, which reaches back within the spray, and the stump or stub is concealed by the projecting foliage. Then, again, the kerf produced by the knife should be directed to the inside, and is not seen, so that the good effect of the trimming is evident, but the means by which it was effected is not apparent.

TO PRESERVE THE CONTOUR.—As the young trees increase in size, and after they have left the nursery to occupy their permanent stations, it is necessary to have a care to the preservation of their contour. The nurseryman must not neglect this in training his trees, and the first requisite is to avoid crowding in the rows—the laterals damaged or lost by such crowding cannot be reproduced as in deciduous trees. Each upright evergreen should be well furnished on every side, and should present a perfect cone from the surface of the ground to the apex—whether this figure be short or long, it should be complete; if otherwise, the deformity is not only irremediable but it will progressively increase, as the lower limbs will become relatively shorter than the more thrifty ones above them. Now, as we have learned that the leader of an evergreen may be amputated without endangering the vitality of the tree, you need have no apprehensions about cutting back the ends of the lateral branches, and this must be done whenever they project beyond those below them. Cut them in severely, if necessary, so as to expose the ends of all the lower branches to the sun and dew—as this is carried on progressively from one tier of laterals to the next above it, the conical figure is insured.

In ornamental planting the beauty of an evergreen is lost, whenever the lower limbs grow shabby and have to be trimmed away, as is too often done; whereas, by carefully preserving their vitality and vigor, the best effect is possible on the plan just proposed—the branches will rest on the surface of the ground, or near it, and the graceful evergreen cone will seem to have its base resting upon the greensward, the stem being perfectly concealed from view.

To you, practical nurserymen, it might be considered almost a work of supererogation to make any reference to that valuable implement the tree-digger, but as all nurserymen are not familiar with its merits, it is mentioned at this time, not so much to vaunt its services in digging trees, as to speak of its great value when used as a root-pruner of all trees that are likely to become overgrown in the nursery, and particularly those evergreens that are liable to make an excessive growth. This cutting of the roots, checks their under vigor, multiplies their fibers, and with comparatively little labor, is equal in its meliorating effects to another transplanting, and may save many a block of evergreens from the destructive flames of the brush heap.

In conclusion, and as a reward for your patient attention, which has again been most kindly granted, allow me, as a labor-saving arrangement, to present the points of this paper in the form of a few postulates:

Trimming coniferous evergreens has for its object the perfecting of their shape and the increased density of their foliage.

To reach the best results, it is important that we study the natural habit of each species as a guide to our labors in trimming and training.

Preserve a single leader in our young trees, and this more particularly in those of fastigate character. This training should be done while young, and continued while they remain in the nursery.

The leader, however, is not vital to the tree as once supposed; it may be cut back with impunity, so may the branches.

The lost leader may be very easily, it is often naturally restored.

Take pains, however, to guard the leader from accident or injury.

The knife is better than the shears.

The tree-digger is valuable as a root-pruner to check excessive vigor of growth that might endanger the beauty and compactness of the trees.

Carefully preserve the contour of your trees, and keep them well furnished with lower limbs, which can be effected by observing these two positive laws:

1. Let no upper limb extend so as to project beyond those that are beneath it.
2. Never trim up the bole of a young evergreen, but carefully encourage and preserve the lower limbs from the very ground. Continue this treatment for twenty, thirty or fifty years, if you desire to ornament your grounds with objects of grace and beauty, surpassing the sculptor's art. Of course you must exclude all pasturing animals from the plantations.

Fruit in Southern Illinois.

COL. COLMAN: Should the following items, relative to the Illinois strawberry crop for the season just closed, be of interest to your readers, they are at your service. With regard to Cobden the figures given are absolutely correct. With respect to other stations, they are thought to be closely approximate. Shipments from May 13th, the opening of the season:

	Quarts.
From Cobden.....	1,753,000
" Central.....	432,000
" Villa Ridge.....	300,000
" Makanda.....	750,000
" Anna.....	160,000
" Other stations, I. C. R. R.	200,000
" Stations, C. & S. L. R. R.	250,000

Total from southern Illinois 3,845,000
But for the severe drouth and a rust or sun scald, which struck the vines just previous to the ripening of the fruit, the crop would undoubtedly have aggregated 4,000,000 quarts. Prices were

generally quite satisfactory—a considerable improvement over those of last year.

Shipments were chiefly to Chicago, St. Louis, Cincinnati, Detroit, Milwaukee and St. Paul, but many thousand cases were consigned direct to the smaller cities and towns, to not less than one hundred points in all.

Statements, taken from over one hundred Cobden growers, indicate that the number of acres planted this spring is very little, if any, greater than one-half the area put out last year. Raspberries are now going forward freely. First tomatoes shipped yesterday. F. E. P. Cobden, Ill., June 13.

About Purdy.

PROF. GEO. HUSMANN: I regret to find that you have been rather severe on friend Purdy of Fruit Recorder fame—as much so that even his well self-advised morality did not prevent an outpouring of refined and graceful blackguardism on your devoted head in the last issue of his paper. Now, as an old subscriber of the Fruit Recorder (for a very brief period some years ago), I must protest against a solid, respectable paper, like the RURAL WORLD, coming down on Mr. Purdy in this manner. Of course his knowledge of fruit growing, or anything else, may not be very advanced, but perhaps you are not aware that there are a great number of new beginners who receive his opinions as gospel on such matters, and who are ready to give him as many "testimonials" as a quack doctor could ask for. I believe that "testimonials" are the most important requirements in such cases. Well, let us hope now that your ignorance—which the well read fruit growers throughout the land have heretofore been so blissfully unaware of—having been discovered and exposed by such an authority as Mr. Purdy, you will hereafter behave with becoming humbleness, always remembering that a lifetime of intelligent study and experience counts as nothing, when opposed to the loud and dictatorial pretensions of our sage of Palmyra. F. T. GROWNS, Susquehanna, Co., Pa.

About Orchards.

The sentiments expressed in the following, by T. T. Lyon, in the Michigan Farmer, will meet with the hearty assent of experienced fruit-growers, with the exception of those contained in the second paragraph:

Never buy a fruit tree of poor or indifferent variety simply because it is large, well grown or symmetrical. Better pay ten prices for a desirable variety, even though the tree is small or ill-formed. With the same amount of care, a small tree will sooner recover from the shock of transplanting; while crooked or ill-shaped trees, if healthy, will gradually overcome these faults, and hence become less and less objectionable.

Never "trim up" orchard trees for the purpose of giving "head room" for a team in plowing and cultivating; since to do so, is to afford a greater leverage for the wind, and to provide temptation to the borer, which will rarely, if ever, work under shaded bark; while the average plowman will be almost certain to "put his plow down" low enough to mangle the roots of the tree in his effort to bring the soil into good till. As a rule, neither plow nor cultivator should be allowed within the spread of the branches of a growing fruit tree.

Never leave an excess of fruit to mature upon a tree under the impression that by so doing you can hope to increase the yield, whether in quantity or in quality. An excessive crop is always secured at the expense of quality with loss of value; and not infrequently at the expense of health, and even ultimately, of the life of the tree.

Never make the very common mistake of supposing that a crop of fruit and a crop of grain can be profitably grown from the same soil at the same time. After trees are well grown they will starve the grain crop, or the grain will rob the tree. With quite young trees a sowed crop will prove nearly ruinous. Till orchard trees are at least six or eight years planted they should be cultivated each year with a hoe crop.

Never prune a tree, or at least never remove large branches, after the first warm days of spring, and before the foliage is of full size. Large branches, if cut away at that period will be sure to "bleed" more or less during the summer, causing an unsightly blackening of the bark below the wound, and occasioning the decay of the heart wood from the excision downward; sometimes even causing the premature decrepitude and death of the tree.

Never forget that an orchard, as surely as a cornfield, consumes the fertility of the soil, and that to starve the soil is as sure to prove unprofitable in the one case as in the other. Trees may live on from year to year upon what they can draw from an exhausted soil; but it will prove just as fallacious to expect a good crop of fruit under such circumstances as it would under similar circumstances to expect a full crop of corn or other grain. We have no doubt but that the vigor consequent upon abundant nourishment, will in some cases enable an orchard tree to carry its crop safely through unfavorable circumstances that would be fatal to the crop of a feeble one.

Girls in the Garden.

If there is any one thing more beautiful than another in a garden of flowers, that thing is a beautiful girl with a sun-bonnet on her head so wide and capacious that you have got to get right in front of her, and close to her, to see the glowing cheeks that are sure to be there if she is at all accustomed to garden walks and works. Physically there can be nothing better for daughters, and indeed, for many wives, than to take sole charge of a small flower garden. The benefits derived from early rising, stirring the soil, sniffing the pure morning air, are freshness and glow of cheek and brightness of the eye, cheerfulness of temper, vigor of mind and purity of heart, consequently she must be more cheerful and lovely as a daughter, more dignified and womanly as a sister, and more attractive and confident as a wife. If you have not the dooryard ground, then get a dozen pots and plant the seeds of flowers to your taste. The care and attention required to rear and train the growing plant occupies the mind, to the exclusion, oftentimes, of senseless novel reading—a senseless waste of time. You listless, pale-faced, fragile thing of a girl, throw off your meek docility, put

on gloves if you will, but work in the flower garden till your cheeks vie in color with the blush of the rose you cultivate.—Floral Monthly.

The Berry Harvest.

Get ready for it in advance. Count up the picking stands, crates and baskets, and learn how many new ones you want, and order early. There is always a rush on box and crate manufacturers just as the berry season opens, and all cannot be waited on at once. Keep the fruit dealers posted on your prospect for fruit, so that they may not engage elsewhere if you can supply them. Look sharp after your home market (the best market by far) and see that no one gets the start of you. Fair dealing, fine fruit and good measure help wonderfully to hold your trade.

Engage pickers in advance, and for the entire picking season. Keep them under discipline by praising the efficient and discharging the mischief makers—there are always a few such—bounce them quickly. Issue a ticket for every four or six quarts brought in by the pickers. If you keep simply an account, the picker's figures will not correspond, and their complaints will annoy you. Let them feel that the loss of a ticket is the loss of money. Keep the pickers at work early and late, but compel them to rest at least two hours in the heat of the day. If one goes home early, the others follow—don't permit it. Don't allow talking, playing or loafing. Dump a box of berries occasionally before the picker, to teach him that his fruit is inspected all the way through. Have all soiled or small fruit put in boxes by themselves, if picked at all—of which I doubt the expediency. Get the fruit under cover quickly, and keep it spread in boxes on shelves, instead of in crates, until ready to go off. Let the fruit house be open to the north, and permit the winds to enter on all sides but the south. Put up a cheap dry-house for the surplus black raspberries and cherries—both are in active demand when dried.—Green's Fruit Grower.

When the hyacinths have ceased to bloom and the leaves are withered, let the bulbs dry in the sun for a few days and then put them away in a paper bag till October, when they can be planted in the ground. Bulbs that have been forced in the house are not good for another season.

A good way to plant some flower seeds which you wish to take particularly good care of is to take a turnip, cut it in halves, scrape out the shell, then fill with earth and plant the seed, and when the time comes to put the winter plant out doors, dig a hole in the flower-bed large enough to set the turnip in—it will rot in a short time—and your plant will thrive by not having the tender roots disturbed.

June, July and August are the best months for layering roses. If the soil dries quickly, water the layers twice a day, as the soil will be taken from the parent plant. Cut them off within two inches from the tongue. Dig deeply with a trowel to take them up and transplant where they will remain. The following spring they should be pruned down to three or four buds. Some of them will flower in the summer.

TRIMMING HEDGES.—A practical farmer of Illinois says that "the only proper time to trim a hedge of any kind is to do it when the tree is at rest, or at any time between the falling of the leaves in autumn and their starting in spring. It injures any kind of a tree to subject it to a severe pruning while covered with leaves. The injury may not be apparent all at once, and the tree may recover without suffering any material harm from a single cutting; but where it is done annually, as is the case with hedges, sooner or later the tree must succumb, or linger along with only a feeble existence. Summer pruning is often the most convenient, and does the least harm where only the soft growth of the present season is nipped; but any severe trimming during the growing season should be omitted."

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"It never rains but it pours." That is what the farmers about St. Louis think now. After quite a protracted drouth we have now a deluge.

W. E. Bonner of Freestone county, Texas, inquires where he can get good spring wheat. We presume that Chas. E. Prunty, of St. Louis, can supply him.

The next annual meeting of the American Nurserymen's Association will be held at Rochester, N. Y., on the third Wednesday in June, 1882. The prospect is good for holding the succeeding meeting at St. Louis.

The vicinity of St. Louis has been suffering greatly for the want of rain for the past several weeks, but heavy showers have fallen during the past few days. We fear the heavy rain fall has prostrated much wheat and oats. Farmers are at work at full blast, harvesting their wheat about St. Louis. Clover has been cut and put away.

The lowest freight rates perhaps on record, over the railroads between the east and west for wheat, are those prevailing just now. It seems a desperate effort is being made to check the flow of wheat down the Mississippi river—to divert public attention from this public highway to foreign markets. It will, however, bankrupt any railroad to remain long in the field, fighting against such tremendous odds.

The wheat crop is much lighter than we expected. On our visit to Dayton, all along through Illinois, Indiana, and Ohio, we can safely say there was not half an average crop, and we think if we had said a third of a crop we would have been nearer the truth. If this section of the country is a fair average for the entire country, wheat will not only be high but very high, but we presume in other sections it is some better.

THE RURAL WORLD will visit any home in the United States for an entire year, for only a dollar. Who is so poor as not to be able to receive its visits? A single article in it frequently is worth much more than the cost for a year. At the late joint meeting of the Missouri and Kansas State Horticultural Society, one member said that a single article in the RURAL WORLD had been worth to him several hundred dollars. Although there are many who are taking several agricultural papers, they cannot afford to do without the RURAL WORLD.

Mr. L. A. Roussel of Riverside Plantation, La., has left upon our table some of the finest samples of syrup and sugar we ever saw. They were made by his new process and without the use of bone black filtration. The syrup looks like the best liquid honey, and is very pleasant and sweet to the taste, and has no adulteration of any kind. The sugar resembles the best quality of coffee sugar. Mr. Roussel is sanguine that by his process, syrup and sugar of equal quality can be produced. If so, it is a step far in advance of what we have expected so soon. We are glad he has paid our section a visit, and trust his hopes and expectations may be realized.

The very valuable address of Dr. John A. Warden on evergreens, before the American Nurserymen's Association, at Dayton, Ohio, is published in this issue. It is worth more than the subscription price of the RURAL WORLD to every one who has evergreens in his lawn or nursery. We shall, in a week or two, publish the very excellent address of W. C. Barry of Rochester, N. Y., before the same association, on ornamental trees and shrubs. It is the best paper on the subject we have ever heard, and every one who loves a well-kept lawn, and wants to know what to plant in it, should read it before the tree planting season arrives, for several years. We shall publish the full proceedings of this association, together with a list of all its members.

Mr. A. R. Whitney of Franklin Grove, Lee County, Ill., the largest orchardist in the United States, having 45,000 bearing trees, told us at the recent meeting of the American Nurserymen's Association at Dayton, that he could not get along at all in his orchard without sheep. By eating the early decayed fruit that falls, they keep in check the codling moth—the worst enemy of the apple grower. While the fruit of his neighbors who do not keep sheep, suffers badly, his fruit is smooth, sound and uninjured. For a great many years the RURAL WORLD has been urging all large orchardists to let sheep run in their orchards, especially till picking time begins, to prevent the depredations of the new brood. All who practice it report the best results with their fruit.

One of the commendable improvements in the city of St. Louis that is steadily expanding, is the planting of shade trees. The various attractive avenues and streets in the city which the resident points out with some pride to the visitor or stranger, are invariably marked for their abundance of shade trees. Property owners realize that the first important step to beautify their homes and lend additional value to real estate is tree planting—a movement that not only reflects a refined taste, but an exceedingly inexpensive one for the benefits resulting. For years St. Louis labored with indifferent success with the maple, elm, tulip and other trees, but the sycamore has been such a general success that little else is now planted for shade. It is a rapid grower, and remarkably free from the ravages of insects or worms.

The St. Louis markets are rather bare of fruits at present. Southern Illinois is shipping a fair amount of red raspberries, and home growers are just fairly started, bringing in a crop below the average in quantity. The supply of black raspberries in this vicinity is unusually light—the demand for them not growing, growers are neglecting them for more desirable fruits. Old apples are about gone, and the supply of the new crop from the south is very meagre yet. Michigan has been furnishing some strawberries the past week. The cherry crop in this county and vicinity has proved very light—very few offered. The receipts of peaches are frequently less than one hundred boxes daily and are mainly from Texas. They will be very scarce and an expensive luxury throughout the season. The fruit is dropping off the trees in southern Illinois and Arkansas, the points from which most was expected.

The attention of nurserymen is respectfully called to the merits of the RURAL WORLD as an advertising medium. It has had a special department devoted to fruit culture for more than a third of a century. It is the recognized organ of fruit growers, nurserymen and tree planters in the valley of the Mississippi. Nearly every member of the Kansas State Horticultural Society, the Arkansas State Horticultural Society, the Illinois State Horticultural Society, the Missouri State Horticultural Society, the Mississippi Valley Horticultural Society and the Missouri Valley Horticultural Society are subscribers. Those who make a specialty of growing and shipping fruits from the Gulf of Mexico to far north of St. Louis are readers. The editor, being a practical fruit grower and nurseryman, has given special attention to the fruit and nursery interests of this great valley, and the RURAL WORLD is without a rival in this class of readers in this great section. Nurserymen who have stock to sell, can find no better medium for reaching those interested in such matters.

The meeting of the American Nurserymen's Association, at Dayton, Ohio, will long be remembered by all who attended it. The members were really the guests of the Miami Valley Nursery Association, which has its headquarters in the city. This association made the best possible arrangements for the comfort and convenience of the visiting members. Towards the close of the proceedings they prepared a most magnificent banquet in one of the buildings at the Soldiers' Home, which was a complete surprise to every visitor. The tables were loaded with the delicacies of the season as well as the more substantial viands. Speeches and good cheer were a part of the ceremonies. The Soldier's Home is located a few miles from Dayton, has several hundred acres of land beautifully laid out, magnificent drives, and costly buildings. It is a very elevated position, and not only overlooks the beautiful city of Dayton with a population of 40,000, but a great scope of country besides. It belongs to the United States and has cost the government many millions of dollars. It is the home of disabled soldiers, the government clothing and supplying them during their lives. If any of our readers visit Dayton they should not fail to visit the Soldiers' Home. The grounds are decorated with beautiful ponds, evergreens, choice ornamental trees and shrubs, rock work, groves and everything that can please the eye, that would be appropriate at such a place. Churches, libraries, and even theatres are to be found. Amusement is found to be beneficial to disabled soldier. It breaks the monotony to which he is subjected. The proceedings of the association were interesting and valuable. We shall publish them hereafter.

St. Louis Amusements.

At Uhrig's Cave, a delightful entertainment is being given by the Ford opera troupe. "Olivette" is the bill and it is sparklingly rendered. Manager Collins is reaping a golden reward for his enterprise, the place being crowded every night by the fashion and culture of St. Louis. "Billee Taylor" is in preparation.

The elegant summer theatre the Pickwick, is now open for the season with an exquisite musical entertainment. Curt's Roman Students furnish the same, which is novel and beautiful. Dora Gordon Steele and a full orchestra company are to be the attractions next week.

Notwithstanding the intense heat those world wide famous artists, Harrigan and Hart, are crowding the Olympic theatre

nightly. Their farce of "Mulligan's Silver Wedding" is wonderfully clever and irresistibly funny, being studded full of good points and rich musical gems. This engagement will probably end the season at the Olympic.

Agriculture, No. 4.—Farm Machinery.

BY CHAS. W. MURFELDT.
It is a singular fact that in the inventing of automatic machinery of any sort, the inventor seeks to produce a machine which will imitate or reproduce hand motion. Thus, for instance, all the earlier inventions of the sewing machine were directed to a motion in imitation of the threaded needle passing through the material of the intended garment, the same as if propelled by the hand of the tailor or seamstress. Such a machine has never been made a success to my knowledge. But the effort led to better results by inventing the loop stick, the use of double thread and other well-known particulars of every variety of sewing machine.

Using this as an illustration, we come to a self-raking reaper. After Mr. McCormick had established the fact that the grain could be cut by horse-power machinery. Most of the readers will remember that on the first machines Mr. McCormick put upon the market, the raker rode upon the machine with his face to the rear, and when grain sufficient for a bundle had been cut, he raked it off and out of the way of the team in cutting the next swath. A bed-ridden cripple, Mr. Atkinson, invented an automaton harvester and self-raker, and the motion of the raker was precisely that of the human arm and hand to produce a like result. I had one of those machines and operated it for a few years with varying success, and I remarked at the time that had any man produced such a machine fifty years ago, and placed it to work in his field without due notice to the world at large, that man would have been pronounced as in league with his satanic majesty.

But I have been anticipating what I designed to place before the reflective reader in this article. Well do we remember the long and tedious process of plowing, harrowing, hand sowing, reaping and threshing. The old bull-tongue wooden mold-board plow, the V-shaped wooden tooth harrow, the heavy seed bag on the shoulder of the farmer, the hand sickle, the cradle and all the old-fashioned implements which were a weariness to the flesh and made the farmer a complete drudge. And then the long winter days, and hand threshing with the flail and all this. Now look at the splendid implements which accomplish so much in so little time, and place the burden on the horse, the mule, and that more powerful but untamed agent, steam. To a farmer who has been laid by age and bodily infirmity, comes the wish: "Oh, that I were young again, and could wield those splendid tools; could cut from twelve to sixteen acres of wheat, or from ten to twelve acres of grass in a day, and then use a horse fork to mow away the fragrant hay without a drop of rain or scarcely a drop of dew to bleach it," &c. But why repine? I have had my day, and should it please God to prolong my days to old age, my children and children's children may do what I cannot.

There is a work which I can do, and that is the one in which I am at this present engaged, and thus I come to the principal point of this article: How the implement manufacturers and dealers must chuckle as they pass up and down the land in pursuit of sales, while they see the plow in the furrow, the harrow leaning against the fence, the mower and reaper where last in use, ditto hay-rake, ditto horse fork, ditto all kinds of farm machinery which costs so much money, which is so useful, so helpful in saving "time" and "labor," two words which there are none more forceful except cash? A shed costing from \$5 to \$25, according to the material used, will shelter a thousand dollars worth of machinery, and a little paint applied in season will add years to the actual wear and tear of reaper, mower, thrasher, &c.

These reflections came to me when visiting St. Louis Fair and while viewing the magnificent silver-plated, gold-embossed, steel-plated exhibition machinery, which was not made for use and which cost plenty of money, time and labor. But the manufacturers are wasteful and neglectful of their less costly but more practical labor-saving machinery. Cottages, carpeted pavilions, plethoric lunch and champagne baskets, two months' peregrinations and vacations from farm to fair, with large and heavy gold watches, diamond studs and other et ceteras, all legitimately earned and well invested, yet paid for by the unscrupulous and uneconomical farmer. How long before the eyes will open or the man see?

Solon Robinson, while agricultural editor of the New York Tribune, once wrote an article, the burden of which was a grindstone. He (R.) claimed he could judge of a man's right to be called a farmer by the condition in which he (R.) found his grindstone, and he proved his position. The same can be done by looking at the place where sheltered and condition of a man's farm machinery. Is it not so?

Fruit and other Crops in Kansas.

ED. RURAL WORLD: Our strawberry season closed June 13. The Wilson's Albany variety was about one third of a crop. About the middle of the blooming season the rust, or as called here the blight, fell upon the plants, preventing the maturing of the fruit, hence a short unprofitable crop. I am much pleased with the Crescent Seedling, Sharpless, Capt. Jack and Monarch of the West. Three beds of Crescent produced berries at the rate of three hundred bushels per acre. It is a very attractive berry, and in our town market sold for from two to five cents a quart more than the Wilson. The Sharpless with us is fully equal to what has been claimed for it in most parts of the country. Its flavor is first among the fifteen varieties that I am growing for experiment. The Capt. Jack with me was more than four times as productive as the Wilson. It was not affected by the rust; in fact, no other variety than the Wilson showed any signs of rust.

Kansas will raise a very large crop of potatoes this season. Beauty of Hebron and

Mammoth Pearl are now very fine and promising. We have had Hebron long enough for use since the second of June. They were planted the sixth of April. The Early Rose is just now making its appearance in our market. This (Douglas) county never had a finer prospect for flax. The crop will double that of last year. In this county the wheat will not average a half crop. Many fields on up-land are not worth cutting. In some localities in the county the chinch bug is playing havoc with what wheat the frost of winter left. The apple crop is showing up better this month than was anticipated last month—instead of a third there will be a full half crop. There will be some good peaches to eat at home, and a few seedlings to spare for our distant neighbors in the west. A good peach orchard in this country would pay as well as in the far south—for here the consumers are all around you, while in the south a producer has to ship three to six hundred miles to find consumers for his fruits.

B. F. SMITH.
Lawrence, Kas, June 20 1881.

Letter from Montgomery.

COL. COLMAN: We will have a good number of peaches and apples this year, and cherries and all small fruit in abundance. Wheat is not so promising; some good fields have been plowed up. The chinch bug and giant fly are doing considerable damage to the wheat, while the former is playing havoc with the corn in some localities. Early potatoes look fine and some large enough for use. The garden looks very well, in fact, I have never seen it fail since I have been here (11 years). Oats and grass are fine; good prospects for an abundant hay harvest, and if our prairie grass is cut in a green state, say about blooming, it makes fine winter food; but to leave it until half dead is not worth as much as wheat or oat straw; hence, we have so many poor horses and cattle in the spring. My young cattle and dry cows were kept in fine condition on early cut hay last winter, and with a little corn this winter, say 2 bushels per head; they are by this time fat enough for beef. The weather is fine and a cool breeze blows day and night with an occasional shower which makes vegetation grow. The wheat harvest will commence about the 15th. Flax and rye are becoming of considerable note among the farmers; both do well here.

I will not write about sorghum this time except to say to Mr. Russell, of Minnesota, that there can be as fair a crop obtained without lime as can be with it; I would not give one yard of lime planes for one thousand bushels of lime. Col. C. you have my sample and I will write on sorghum soon. Every farmer can make his own syrup at small expense.

J. E. HARDEN.
June 4th, 1881.

The Department Entomologist.

EDITOR RURAL WORLD: I hear that our old friend, Prof. C. V. Riley, is likely to be re-appointed entomologist to the Department of Agriculture. I hope the report is correct, as a more suitable man for the position could not be found in the Union, and for once the right man will be in the right place. Having myself made a specialty of the study of insects for more than twenty years, I am in some measure able to appreciate the abilities of Prof. Riley and to know his great proficiency, both in economic and scientific entomology. Knowing you to be an old friend of the professor, whose entomological articles I have frequently read in the RURAL WORLD, I would be glad to hear through that paper whether the report I have heard is correct, and I have no doubt many others of your readers would be glad to hear that an old friend had been re-appointed.

JOS. G. BARLOW.
Washington county, Mo.

REMARKS.—We believe the appointment of entomologist for the Department of Agriculture, rests entirely with the new commissioner, Dr. Loring. What his views are, we have no means of knowing. That the appointment of Prof. Riley would give unbounded satisfaction to his thousands of friends in the Mississippi Valley, we are certain. In point of qualifications for the position, we feel confident Prof. Riley has no superior in the United States. He is considered high authority not only in the new world but in the old world also. His reputation is not confined to this continent.

How to use London Purple.

COL. N. J. COLMAN: Will some of your readers please give me directions in detail how to use "London Purple" on potatoes to destroy the bugs? They have attacked mine in force, and I have no time to lose. By complying with the above you will greatly oblige.

HICKMAN CO. KY. WILLIS D. RINGO.

P. S. Wheat harvest here just closing, $\frac{3}{4}$ acreage. Yield and quality good. Corn late and bad stand, on account of bad seed. Oat crop, will be light owing to a five weeks' drouth which we are now enjoying. Clover fine and heavy.

Col. Thomas A. Scott died worth about \$13,000,000. It is a remarkable fact that notwithstanding a majority of the railway kings began with nothing, and after suffering during their whole reign from the meddlesome work of the grasping granges, they usually manage to leave behind them, millions of dollars. How these vast fortunes are accumulated it is unnecessary to state, but communities which have to pay a large percentage of the value of all their products to the same to market, and then as much more for what they buy with the balance of the proceeds, will not be at a loss to account for the thrift of railway magnates.

The official report of the crops of Russia in part explains the unexpected dear and for wheat from Europe. The wheat crop of Russia is placed at 14,100,000 quintals, against 16,300,000 as the average crop, but the main loss was in rye. The yield is estimated at 32,000,000 quintals whereas 53,200,000 is an average crop. There was also a deficiency of 3,000,000 quintals of barley, and 9,000,000 of oats, besides about 70,000,000 quintals of potatoes. The deficiency in rye only, for all Germany is estimated at 112,000,000 bushels. Nor can Russia supply the want as usual. Hence, a greater demand for American wheat.

Fish and Fishing.

Two millions of young shad are to be placed in the Susquehanna River at various points between the head waters of that stream and the Columbia dam.

In a single day 24,200 shad were taken in the Delaware River by the fishermen of one county alone, and the increase in the catch over former years has excited considerable attention.

During the past week many salmon trout were caught in Moschoen Lake of the Adirondack region, one weighing fifteen pounds. From now until the last week of June trout fishing will be at its best in that region.

The Delaware River is now filled with large schools of shad as far up as Lackawanna, where they are prevented from ascending further by the dam of the Delaware and Hudson Canal Company, but it is now proposed to open a fishway in the dam. That structure is no obstacle to the black bass.

A novel shipment of carp took place recently. Thirty carp were sent to Ecuador by Prof. Baird in charge of Mr. Aguirre. After they arrived at Ecuador they will have a ten days' journey to the plantation of Signor Tizon, near the city of Quito, upon the banks of Indian carriers, and require special cans for their transportation.

COL. COLMAN: I have a pond (80x30 x5 feet, supplied by a spring) at the bottom of our lawn. We want to stock it with fish, would the German carp do well there, if not, what kind would you recommend? (Mud bottom and uniform ditch). If we succeed with this small pond we have a capital spot for a larger one ($\frac{1}{4}$ acre or more). Please let us know to whom we should apply.

A. TELLAND.

REPLY. The German carp will do well in the pond, but if we had a pond fed by a spring we would prefer to stock it with bass and croppie, being fish of a better quality. Almost any kind of fish will do well in such a pond. The fish commissioner of your State will probably supply you with the small fish, if you will ask him.

The use of twine binders is expanding an important industry in the North-west. The advantages of cord as a band for sheaves has turned the attention of farmers and manufacturers to the necessity of cultivating the plant from which such cord can be economically made.

Farm Notes.

Mr. Wm. Hamilton, of Flint, Mich., one of the best starting judges in the country, will officiate at the Chicago trotting meeting.

Bob Woole, a game race horse by Lexington, dam a Lexington mare, broke one of his legs a few days ago in his stall and was killed.

Never before in the history of New York were so many fast trotters seen on the roads in the upper part of the city as during the last two weeks.

Adroit (half brother to Audax) died recently at the McGrath Farm, Kentucky. He was two years old and bid fair to become a first-class race horse.

Next Saturday there is to be a great race meeting in Honolulu, Sandwich Islands. They have a fine field of race-horses, and trotters with records down in the twenties.

Mambrino Belle, which Commodore N. W. Kison, of St. Paul, recently purchased for \$6,000, died of pneumonia. This is a severe loss to the Commodore's new breeding venture.

Six thoroughbred horses were recently shipped from Kentucky to Japan, this being the second installment of blooded stock purchased in this country by agents of the Japanese Government.

At a recent sale of condemned animals at Fort Lincoln, Dakota, mules sold at from \$100 to \$150 cash—one stone blind at \$112. Horses, broken down backs, unsuited for army service, sold at \$100 to \$110 cash.

A Cincinnati telegram says: Although not generally known it is a fact that Mand S. has been stopped in her work, and it is not improbable that she will soon be sent back to Mr. Vanderbilt's stable in New York.

The New York Sportsman says that Mr. Keene has sold Lord Murphy, El Capitan, Brakspere, Gensbeck and Bran Dance to Mr. Ten Broeck. They have been scratched from the engagements made by Mr. Keene.

Horse-stealing has become almost a nightly occurrence in and around Richmond, Va., and farmers and horsemen are in a fever heat of excitement. About a dozen horses have been taken during the two or three weeks.

Mr. H. V. Bemis has placed his young stallion Mambrino Sturges, by Mambrino Gift, in the stable of Matt Colvin for training, and he has already improved beyond the utmost expectations of his owner, and bids fair to equal his sire's record of 2:20.

Mr. M. H. Sanford's fine mare Minx, by Lexington, dam Mildred by Glenora, died May 24. Her son, Monitor is famous, and her foal of 1879 is engaged for the Derby.

Mr. Keene paid \$3,000 for the foal, and Mr. George Lorillard gave \$4,000 for a brother to Monitor the other day.

Mr. Keene's three-year old colt Bookmaker, by Bonnie Scotland, has been sold for the light weight of 89 lbs. against 126 lbs. on Fernandez and 125 on Peter, for the Manchester Cup one of the richest handicaps in England, worth about \$14,000 to the winner. The race is to be run June 9.

Jewett, who has the fastest three-year-old record, 2:23 $\frac{1}{2}$, made his first appearance this season at Detroit Friday in the 2:23 class, selling second choice, with Silverton as favorite, but failed to get any part of the purse. After he has been sharpened up by few races, Jewett will be a good horse in his class.

Mr. O. B. Dickinson is the owner of a colt by Scott's Thomas out of Maud Williams, foaled a few days ago. Unfortunately the mare died soon after foaling. She had a mile record of 2:28, and one of 5:12 at two miles. The colt is doing well, another mare having been secured to suckle it, and has been named Orphan Tom.

HAY-MAKING.—As the season of hay-making approaches, one of the prominent questions which arise is the best time to cut the grass.

This question should be decided according to the best interest of each individual farmer. Some varieties of grass will bear earlier and more frequent cutting than others, and seem to do all the better, in a series of years. Grasses, like timothy, which renew itself by annual formation of bulbs, for the best results of several seasons, must be allowed to complete maturity and perfect seed. Cutting down the stems before the plant has come to maturity shortens the life of the plant, as the bulbs require a certain amount of nutriment to be returned from the stalk and leaves, and this is always done after maturity, never before. The point in completing completion of nutrition is indicated by dryness of the stem near the crown of the

bulb. When these indications appear, the seed are fully developed, and ripen fully as the ripening of the stem ascends.

Physicians of Long Practice.

In regard to the administration of "Compound Oxygen," the new remedy for chronic ailments, which is attracting so much attention, we wish to say that we are physicians of long practice and experience, not vendors of a patent medicine. Our business is to cure diseases. There has come into our possession a knowledge of the way in which to combine oxygen and nitrogen, the two elements which make up our common or atmospheric air, in such proportions as to render it much richer in the vital or life-giving quality. It contains no medication, unless the elements of pure air are medicines, and its administration introduces nothing into the body which the system does not welcome as a friend, except with avidity, and appropriate as entirely homogeneous to itself. You will find many of these results recorded in our Treatise on "Compound Oxygen," which is sent free. Address DR. STARKER & PALER, 1109 and 1111 Girard St., Philadelphia, Pa.

A flourishing co-operative business was started by four poor women of Philadelphia, who joined in the purchase of a barrel of flour, and found it so much cheaper than buying the article by the pound, that they extended their plan to other household necessities, and gradually took in additional members. Before long, they hired a room and employed a woman to superintend purchases, and now 50 families secure all their groceries at wholesale prices through this combination, and it will doubtless still further enlarge its operations.

From the far-off town of Aurora, Ill., news comes of a falling out between Adam Forepaugh and his \$10,000 beauty, Louise Montague. Instead of a \$10,000 contract, it is said, Forepaugh's engagement of the lovely Louise was at \$150 a week, but it appears that Forepaugh, the gilded elephant wren, regards even that as an extravagant sum to pay a woman for riding an elephant in parade about once a week. The beauty is reported, however, as being determined to hold the mammoth showman to his bond, and she will continue to ride that elephant until the thirty weeks for which she was engaged have expired.

By intelligence received from the Warner Observatory, Rochester, N. Y., it appears that still another comet has just been discovered by Dr. Gould, Director of the Cordova Observatory, Argentine Republic, South America. This comet seems to be the great comet of 1807 and is located in the Constellation of the Dove, Right Ascension 6 hours and Declination South 30 degrees. It is not visible from this latitude and not known yet that it will be, although it is likely to be as the comet of 1807 was distinctly seen. No apprehension need be had over the unusual appearance of comets during the present year as they do not possess the power to work injury upon the earth or any other planet.

Most farmers, probably, believe that the great bulk of the constituents of their crop is derived from the soil. This is a very great mistake. Take, for instance, a hay or pasture field. The carbon, hydrogen and oxygen of the plants are derived from the atmosphere, the nitrogen and mineral matter from the soil. This would be equivalent to 92 per cent. of dry hay being derived from the atmosphere and only 8 per cent. from the soil. From this it may be seen that the farmer who has all these ingredients locked up in his manures, which he might apply to his lands for plant food, by letting it lie scattered until decomposed and wasted, sends off 92 per cent. of it to feed the plants of other lands, perhaps of farms a thousand miles away.

The question is asked: "What is to be done with the legion of emigrants that is seeking our shores?" The answer is simple: Americanize them. Don't ask them to forget their old homes, but nevertheless ask them to learn to look upon America as their new home, in which they are to live and die, and in which their children are to grow up into American citizens. Give them to understand that this country is as much theirs as ours, that it is for their interest to understand, cherish and defend our free institutions, and that upon them as much as upon us depends their continuance. Put this responsibility upon them, teach them that to truly profit by the advantages that America offers they must become Americans in fact as well as in name, and that it is not length of residence so much as a proper spirit that transforms a foreigner into an American. Teach them that it is in this sense that you believe in America for Americans, and they will not quarrel with the doctrine.

It was rumored to-day that the parties who have been under wheat here and in Milwaukee for some months past, sold out during the "bulge" of last week. The rumor even went so far as to say that they sold about 150,000,000 bushels at an average profit of about nine cents, making the sum of \$1,250,000 after paying all expenses. They may have sold so much, and made so much profit, and yet not be out of the deal. They certainly sold freely during last week, but the indications are that somebody is yet under it. Of course no one knows for how long. The history of the wheat market will probably be reported to this extent. Prices advanced to a point where the monopolists unload, and leave others to carry the property. Those who have hold of it last invariably get lost, and no one can invest without taking this risk. The secretary of the California Board of Agriculture estimates the whole crop of this year in that state to be only about 50 per cent. of the yield of last year.—Ex.

Piles, Piles.

Drs. Warrman & Co., 906 Pine street, St. Louis, Mo., positively cure piles without knife or pain. Not a dollar unless cured. Send for circular. 25-4f

The year's product of the Fairbault refinery, in Minnesota, was 600 barrels of choice syrup and about five tons of pure sugar of a shade equal to the best coffee C, and quality equal to the best coffee A. It was all from Amber cane, and wholesaled readily at 8 $\frac{1}{2}$ cents per pound.

PRUNING SHRUBS.—Among spiraea, dentzia and many other shrubs a multitude of sprouts will now be starting from the roots. These should be thinned out considerably, for it is far better to have a few strong, well-seasoned shoots than a large number of watery, weakly sprouts. Some trees will be sprouting all over their stems; these sprouts had better be rubbed off at once, as if delayed they will have to be cut off. Sometimes done blooming had better be thinned out a little, and many of the long, winelike shoots cut back to good, strong buds or sprouts. The multitude of sprouts they will be likely to produce can be considerably lessened by rubbing off; they will bloom all the better Spring.

Five Stock Breeder.

Mr. J. Lucas Turner, of Columbia, Mo., writes us that he has a chestnut foal, just foaled, out of Bryonia by Jack Malone, sire, imported Great Tom, owned by General Harding, of Tennessee.

American horses are beginning to command respect abroad. Troquois has again been triumphant winning much honor and many shekels for his American owner, Mr. Lorillard. His last performance in winning the Prince of Wales Stakes was even a greater performance than winning the Derby. But American honors do not stop here. Mr. J. R. Keene's American bred colt Foxhall has just defeated all the best race horses in France, by winning the grand prize of Paris, and bushels of money besides. Mr. Keene lives in New York city. Foxhall was bred by A. J. Alexander, Woodburn farm Kentucky. He is bay and was foaled April 1st, 1878. He is by King Alfonso and his dam was by Lexington.

Breeding Aged Mares.

COL. COLMAN: I would like to have your opinion as to the safety of breeding a mare nine years old, who never had a foal—and if safe which would be best, a large or small horse, as regards safety.

J. E. DAY, Buckley, Ill.

REMARKS.—There is no danger in breeding a mare of that age, nor of any of the best race horses in France, by winning the grand prize of Paris, and bushels of money besides. Mr. Keene lives in New York city. Foxhall was bred by A. J. Alexander, Woodburn farm Kentucky. He is bay and was foaled April 1st, 1878. He is by King Alfonso and his dam was by Lexington.

Hints to Young Lady Riders.

If a young lady be possessed of good nerve, teach her to ride by all means—not otherwise, as it is flying in the face of Providence; but do not allow her for a moment to imagine that in the curb-bit, the pomels, and the stirrup, there is safety.

First let her learn to sit square upon the saddle, with a light hand upon the reins—the lighter her hand the less her horse will pull, and vice versa (at using force against force she has no chance); and let her of her first lessons be to ride without stirrup, so that at any time she may be independent of it, and never so ride upon it that her foot driven home, cannot be extricated in a moment. The habit should not be so long as to impede her movements—just long enough to cover the foot. Then case of a fall, she may escape unhurt.

It may safely be conceded that at least one-half of the accidents of ladies occur in consequence of cowardice or nervousness, or whatever it may be called, which simply amounts to a want of nerve to act with determination at the sudden appearance of an unexpected danger.

A scream and the reins are gone; the horse catches the contagion of fear, and a fatal casualty, which might have been averted by a calm confidence on the part of the victim, is the consequence. By careful training this danger may be obviated completely.—Frank Leslie's Lady's Journal.

Founder.

A disease that is far too common in horses, is caused most frequently by driving a horse too far, or by over-exercising him, and more or less exhausted, and then allowing him to cool off suddenly without rubbing dry. A horse driven hard for several miles, and then hitched to a post in the open air in cold winter weather, and perhaps forgotten by the driver, who may be telling stories, or smoking a cigar by a warm fire, the next morning, if not sooner, it is noticed at the animal has not eaten well, and can scarcely move from the stall. The lameness may be chiefly in one limb, or in more than one. Dr. Cressy, in his recent lecture before the Connecticut Board of Agriculture, said that at any case of founder can be cured if taken within thirty hours of the attack.

The first thing to do is to place the horse's feet in tubs of warm water, then blanket heavily, and get the animal thoroughly warm over. The lameness is caused by a stagnation of the blood in the feet, caused by being cooled too rapidly after exhausting labor. The warm water thins the blood, extends and softens the blood vessels, and favors increased circulation. In very bad cases, bleeding in the foot may be necessary, though ordinarily it may be dispensed with.

Knowing the cause of founder, it will be seen that it is much easier to prevent than to cure this disease after it becomes established. One of the first things to avoid is severe driving and over exertion, but if abuse of this kind is unavoidable, see to it that the horse who has risked his life in the service of his master is not neglected at the end of his journey. Drive into a warm shed or barn, free from cold draughts, and rub vigorously all the animal is dried off. Give warm water to drink, and cover with warm blankets. Do not treat the horse just as you would treat yourself under like circumstances.

How to Tr at Young Colts.

It is seldom necessary to handle foals till they are weaned, but as some foals are very wild, it is well to get familiar with them, and their peculiar characteristics should be taken note of. They should be approached gently, and allowed to smell the hand before making any attempt to handle them. Coax them with a dainty bunch of clover or green oats, or some tempting kind of food. If they refuse to take it from you, never throw it at them, but lay it down on the ground where they can find it. They will observe your motions, and soon learn that you intend to be on friendly terms with them. Thus you will soon be able to stroke them first on the nose, then on the neck, and so forth. It is not well to slap them about the hind quarters till you are on intimate familiar terms with them.

When first confined to their loose box after weaning is the proper time to cultivate their acquaintance in earnest (being weaned from their dam, they naturally turn to man as their best friend. Alas! how often are they deceived; here you have them more under your control, and now is the proper time to show them that you are really their friend. Whenever you go in to take advantage of the occasion to give them something from the hand, a little salt, a handful of oats, an apple, or potato or carrot, or something to tempt the appetite until you have attained a sufficient hold on their friendship, and do

not wish to cultivate a closer acquaintance. Colts sometimes become troublesome by being too much petted. It is then only necessary to check them by gentle correction and less familiarity. You having gained their good will, it rests with yourself how much of it you will have.

Having arrived at a proper understanding, avoid playing with them or teaching them tricks, such as nipping or kicking, as it may cause trouble to break them of it afterwards. They should be lightly rubbed down occasionally with a wisp of straw or a soft brush, commencing at the neck, then down the back and sides, then the fore legs may be rubbed, and afterwards the hind legs, if the colt is gentle; if not, do not be in too great a hurry to go all over at one time, rub the fore legs and gradually work back till he becomes accustomed to it. Then take up one fore leg and handle the foot. Another time try the opposite leg, being careful not to irritate or frighten the colt by so doing. Stroke them down after each handling, and always leave them in good temper.

This treatment practised once or twice a week at first and occasionally afterwards is all that is necessary the first winter.

Ranch and Range.

Mitchell & Pressnell arrived with two herds of about 3,000 on route for Ogallala.

Tom Connell, of Foliad, passed through Tuesday with 700 horses for Caldwell, Kas. Texas Live Stock Journal: W. R. Moore, of Shuckelford, starts with a herd for Kansas in a few days.

Doe Burdett, with the first through herd of 3,000, arrived Saturday, and will be held near Dodge until sold.

Charley Boyce, who is driving 1,000 head of horses, is in the city awaiting the arrival of his first herd, which will be here in a few days.

A Johnson county stock man sold 200 steers last week at \$30 per head. Another stockman of the same county sold 100 head at \$34.

Fort Griffin, Texas, Echo: J. J. Ramey this week sold his stock of about 800 cattle to the range, 12 horses and ranch to Mr. N. P. Rogers, for \$8,080.

Andrew Crane, foreman of Moore & Allen, was in the city Sunday and departed for the round-up. He informed his employer that they will sustain no loss of cattle.

Dodge City (Kas.) Globe: Mr. Hannab, who has been holding cattle on the Beaver, started for New Mexico, where he expects to purchase 1,000 head of beef cattle, which he will drive to this market.

The Culbertson, Nebraska, Sun in speaking of the recent round-up in that vicinity says: "The cattle were in as fine condition as they ever were before at this season of the year, notwithstanding the severe winter."

Last Thursday Mr. D. C. Cantrell started from Dallas county with about seven hundred head of two and three year olds, on a drive for his ranch, which is in the Pan Handle, where he already has quite a herd.

The annual series of short-horn sales by the Hamiltons, Vanmeter & Hamilton and Messrs. Muir, Lary and Pierce, to be held at Mt. Sterling, Stock Place, Winchester county, and Clintonville, Bourbon county, Ky., on the 27th, 28th and 29th of July, should be particularly borne in mind by every breeder of fine stock.

A herd of 2,560 head of steers belonging to A. H. & J. E. Pierce, of Matagorda county, passed here last Thursday en route to Caldwell, Kas. The herd was in charge of Geo. C. Gifford. The Messrs. Pierce are among the most extensive stock dealers in the State, owning their own stock pens on the coast and shipping largely to Havana.

A great combination sale of short-horn cattle is to be held at the Fair Grounds, Marshalltown, Iowa, on the 15th and 16th instants: 200 head of short-horn cattle will be sold for breeding purposes. This heavy sale should call out a very large attendance of buyers, as it will offer an unusually good opportunity to make selections and invest in cattle of this kind.

The following from the Cimarron (N. M.) News and Press is sound: "It will take many years to settle conclusively which kind of cattle are best suited to every region, but meanwhile any blooded cattle, short-horn, Devon, Hereford, or polled Angus will be a great improvement over the native Texans, and the more of them can be brought into this country the better."

The following from the Las Animas, Colorado Leader is "given for what it is worth." Mr. Powers, this week, delivered a yearling, pure blood Hereford, sired by Victor, for \$250. He sold to W. W. Jones, of Granada, another thoroughbred sired by the same, of the same age for \$300. As showing the difference between the demand or the esteem in which the two breeds are now held by stock men, an equally good short-horn is harder to sell at \$100 than a Hereford at \$300.

Importations of thoroughbred cattle thus far this year have been greater than ever before, and if the present free movement is kept up during the remainder of the year, it will be the banner year for thoroughbreds. Eastern breeders are infusing fresh blood into their stock by purchasing from herds in the Old World, and in turn the fine stock breeders sell thoroughbred and grade bulls to the western beef grower. The spirit of improvement was never more general than to-day.

The foot-and-mouth disease is rapidly spreading in England. Infected districts are being separated and individual herds quarantined. The loss promises to amount to many millions of pounds sterling. Every care should be taken by our government to prevent the importation of this disease by means of breeding animals or otherwise. Farmers in England who do not report to the authorities cases of outbreak of this disease, are heavily fined for the offense. One farmer had to pay \$75 fine. They do these things differently in England from this country.

A sale of short-horn cattle, 55 head, will take place at Oskaloosa, Iowa, on the 30th inst., which will afford a fine opportunity for investment in such stock. The herd to be sold has been thoroughly well bred. About fifty of the animals to be sold are calves, yearlings, and two years old, representing the best families that are known among short-horn breeders. Full pedigree and full particulars will be given with each of the animals that may be sold. Wm. T. Smith is the owner of the herd to be sold, to whom applications at Oskaloosa, Iowa, can be made for catalogues.

There has during the past fifteen years been a steady improvement in the quality of the great bulk of the cattle that have been coming to the Chicago market. Short-horn grades have been steadily on the increase, and it has been through cattle of this kind that we have been able to build up our formidable trade in shipping live cattle and dressed beef to the English markets. Graded cattle from one-fourth to seven-eighths up to the blood have been taken to fill this kind of demand. This trade has been rapidly on the increase. The advantages to the cattle producer are all on the side of raising cattle of this kind. The higher up in blood the better. We shall never see the time when there will

be too many cattle of this kind in our country. They are the best for the consumer everywhere and under all circumstances.

Sheep are becoming popular with the masses of western farmers, who seek to increase their profits by stock raising and at the same time improve their soil, raise more grass, have less labor, and make more money. A pound of mutton can be raised as cheap as a pound of beef or pork, and is worth equally as much in the market, and the wool is extra profit. Use thoroughbred males of any of the popular breeds, and in a few years your sheep will be a source of pride as well as of profit.

It is often that Cotswold sheep weigh as much as 300 lbs each, but to raise them to perfection requires abundant of rich pasturage. A few heads of Cotswolds well attended to will pay anyone well, as they yield heavily of wool as well as mutton. The Southdown is a better sheep for mutton purposes than the Cotswold where the pasturage is not very fine. They are hardy, but smaller than the Cotswold and larger than the Merino. They are not much bred in the Gulf States, but are giving splendid satisfaction wherever they are known and introduced. For a general purpose and in our section, the Southdown is decidedly our choice; for wool the Merino is unrivaled.—Southern Live Stock Journal.

A New Mexico paper says: "Breeds of cattle, like mining districts, have their boom. The day of the short-horn excitement is well nigh over. The Herefords are at the zenith of their popularity, and boom for the polled cattle is just beginning." This assertion may possibly be true of that locality, but taking the country over the short-horns are just getting thoroughly established and are beginning to be appreciated, while the Herefords, it is to be hoped, are far from being at the "zenith of their popularity." Indeed, they have not been fairly introduced in the great western cattle growing regions as yet, and are far from being common in the older States. As to polled cattle, the herds in the United States and the average number of each herd could be enumerated on one's fingers. The two or three leading races of beef cattle will never be at the "zenith of their popularity" while the markets of the country are flooded with scrub stock.

A single shepherd and his dog will accomplish more in gathering a stock of sheep from a Highland farm, than twenty shepherds could do without dogs; and it is a fact, that without this docile animal, the pastoral life would be a mere blank. Without the shepherd's dog the whole of the wool of our land in Scotland would not be worth a sixpence. It would require more hands to manage a stock of sheep, gather them from the hills, force them into houses and folds, and drive to market, than the profits of the whole stock would be capable of maintaining. Well may the shepherd feel an interest in his dog; he is indeed that earns the family's bread, of which he himself is content with the smallest morsel; always grateful, and always ready to exert his utmost abilities in his master's interest. Neither hunger, fatigue nor the worst of treatment will drive him from his side; he will follow him through fire and water, as the saying is, and through every hardship, without murmur or repining, till he literally falls down dead at his feet. If one of them is obliged to change masters, it is sometimes long before he will acknowledge the new owner or condescend to work for him with the same willingness as he did for his former lord; but if he once acknowledges him, he continues attached to him till death; and though naturally proud and high-spirited, in as far as relates to his master, these qualities (or rather failings) are kept so much in subordination, that he has not a will of his own.

SHIPPING SHORTHORNS WEST.—W. P. Turner, of Davidson county, Tenn., his son and five others will leave Nashville, Tenn., with 300 head of short-horn cattle, of which 105 are bulls, for San river, Montana. The latter are to be used exclusively for breeding purposes. In addition, Maj. Turner will take with him forty cows and heifers, thoroughbred Short-horns of his own herd. The 300 will fill the orders of O. H. Churchill, Robert Ford and others, of Montana, Churchill having made a visit to Nashville not long ago to secure these cattle, of which Tennessee has a large stock. The transportation will cost \$4,000, an entire train being required. They will be three weeks on the way.

Said a butcher to us a day or two since—"It is almost impossible to get good beef for love or money." He also added that "good beef" was never so high in this market as at this time. Now here is a lesson for our farmers, and though this is not the season for stall-feeding beef, yet it is the proper time to make preparations in order that they may do so next winter. They can put the seed of the corn, the potatoes, the turnips and the carrots into the ground at this time, so they will have the where-withal to fatten beef in any quantities next winter. Most every farmer should at least stall-feed half a dozen head of cattle during the winter. It is mighty convenient to dispose of a few fat bullocks off of the farm in the spring, receiving therefor double the price they were worth the previous fall.—Ex.

The Shepherd.

Edited by R. M. Bell, of Brighton, Massachusetts, to whom all matter relating to this department should be addressed.

Best Large Sized Breed of sheep.

EDITOR RURAL WORLD: K. B., wishes to know which is the best large sized breed of sheep for both wool and mutton. Now without wishing to de-ray any other breed, all have their friends and admirers, and will fill the places and answer the purposes for which they were intended. I would say that the Shropshire downs will meet his wants nearer than any other breed.

He might possibly make up a cross or crosses that would perhaps answer his purpose as well, but I know of no fine breed that excels them, either in hardness of profligence, early maturity or growing popularity; and as to size, they are perhaps only surpassed by the Oxford-downs. The Shropshires furnish a large amount of strictly first class mutton, with a large percentage of lean meat. Ewes often weigh over two hundred pounds, and rams and wethers from two to three hundred and fifty, and even more, large enough to meet the requirements of the export, and early lamb trade, and our butchers want nothing heavier. And, in connection with their superior mutton qualities they also furnish a good fleece of wool weighing from nine to fifteen

pounds, much sought by the wool trade. I would never advise the crossing of different pure breeds, so long as we have pure breeds that meet every requirement. These will breed more true to a certain standard whereby, in having a certain line of crosses it is often difficult to procure series of the same make up to perpetuate the mixture in the same ratio. And the flock will never be uniform, as they will continually breed to one side or the other. At the same time it is to be remembered that more than one good quality in the height of its perfection cannot be produced in one and the same animal.

J. E. M., Belleville, Ill.

Sheep in the South.

MR. EDITOR: In the RURAL WORLD of May 19th, I see a notice of Dr. Smith's flock, of Canton, Miss., which savors so strongly of the true policy I have so long and so loudly advocated, that I am constrained to infringe somewhat on your prerogative, and compliment the Dr. on his success in this comparatively new field of southern enterprise. Situated as we are, with our almost perennial pastures checked with the streams of the purest living water; thus rivaling and even surpassing as a sheep pasture, and the flower-laden pampas of the lone star State, or even the beautiful blue grass regions of Kentucky with our nine months of summer and scarcely three months of usually mild winter—with all these advantages it certainly requires no Solomon to decide as to the relative profits of wool at 25 cents, and cotton at 8 cents per pound.

With all these advantages in favor of wool and mutton it is very rare to find a man who pays any attention at all to his few sheep that are scattered about over the woods at the mercy of dogs and their negro companions. Within the last few months parties from different portions of Texas have bought up in this county and the one adjoining (Ouachita) about fifteen hundred (1,500) head of sheep for the nominal sum of 90c. @ \$1.25 a head and driven back to their prairie ranches to get \$2.50 @ \$3.50 each for the investment. I am ridiculous for giving \$50 for a ram by parties who are to-day paying merchants 14c. per pound for bacon, with which to make cotton at 8 cents per pound.

I get for my wool 32 cents at my door for table-washed, and if I send it to St. Louis I get 36 cents. It costs me about 9 cents a pound, everything considered, to raise cotton so that it is actually a retrograde business if a man counts his costs closely. Now, on the other hand it does not cost me 25 cents each a year to keep my sheep, while by their credit may be placed 71c. unwashed wool, besides the other items of manure and often two lambs. Revolutions always come slowly, but are none the less certain in their effects or salutary in their influence, and a revolution is just as certain to take place sooner or later as the present suicidal policy of southern farmers is continued, a revolution that will bring bankruptcy and ruin to the class, that, although themselves producers, depend upon another for the necessities of life.

I hand you, herewith, samples of my wool with the following average yield: My $\frac{1}{2}$ bloods yield annually, 9 lbs. 7 oz. My scrubs all the way from $\frac{1}{2}$ lb to 3 lbs.

I now have one hundred A ewes that came through the past winter in fine fix, and brought me a larger per cent of lambs than any flock in the country.

I find ready sale for my ram lambs among those who keep a few sheep and whom my success has induced to try an improvement in their sheep. Please class my wool and try to induce Dr. Smith to give us the details of his management through the columns of the RURAL WORLD. It should be the "vade mecum" of every farmer in the land.

I have chalked out an article on "The summer management of sheep" that I will send soon. With best wishes for your success in advancing the cause of sheep husbandry in the south, I remain very truly, CHAS. T. GORDON.

Mt. Holly, Ark.

Sheep Husbandry in Iceland.

I have recently returned from a sojourn of some months in Iceland, during which I traveled over the whole country, besides making a trip around the island, in one of the coast steamers, touching at all the ports. Iceland is noted for its sheep culture. The flocks have been largely diminished of late years by the scab, which has now, however, totally disappeared. In spite of this the number of sheep, by the latest accessible official report, is over half a million, and this will increase during the next few years. The grazing is excellent, and sufficient, I should judge, to maintain two or three times the number of sheep usually kept, provided the meadow-land could be extended, or a certain quantity of pressed hay be imported. The exports of wool approach two millions of pounds, but much is consumed by the hand-looms of the country, or knit by hand into mittens and socks, of which many thousands of pairs are exported.

The exported wool is sold to the Danish merchants and sent to Denmark. Thence it goes to English merchants, who again dispose of it to English manufacturers. These last manufacture it into cloth, and it goes back through the same channels to Iceland, where it is sold back to the same farmers who raised the wool. Between its growth and its consumption as cloth, the wool thus passes through seven or eight hands.

There is not a single woolen factory in the country. The country has been wretchedly misgoverned during the last four centuries. But in 1874, after a protracted political struggle, Iceland obtained the right to govern itself, and is now making material progress. The necessity of doing many things, which under a good government should have been done many years ago, and spread over a considerable period of time, weighs heavily upon the people. They have to expend their energies largely in building roads, schools, etc. They are consequently anxious that foreign capital and foreign skill should aid them in the development of their resources.

Akureyri, on the northern coast, is a bright, attractive little hamlet of some 500 inhabitants, and is growing. There are four or

Of Interest to Wool Growers.

LADD'S TOBACCO SHEEP DIP IS NOT POISONOUS, and may be used with perfect safety to the animal and without injury to the flock. It is guaranteed an immediate cure for scab, and a prevention of infection by that terror to stock masters. GUARANTEED to improve the texture of the fleece, instead of injury to it as is the result of the use of other compounds. GUARANTEED to destroy vermin on the animal and prevent a return. GUARANTEED to be the most effective, cheap and safe remedy ever offered to American wool-growers. We have the most indubitable testimonials corroborative of the above. **Certain Cure for Scab and Vermin at any season of the year. No Flock Master should be without it.** It is as safe as any dip, and it is as effective as any dip. It is the only dip that is safe to use on the animal and without injury to the flock. GUARANTEED to be the most effective, cheap and safe remedy ever offered to American wool-growers. 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The Home Circle.

THE SPINNER.

Two sat down in the morning time,
One to spin and one to sing.
All men listened to the song sublime,
But no one listened to the dull wheel's din.

The singer sat in a pleasant nook,
And sang of life that was fair and sweet;
While the spinner sat with a steadfast look,
Busily plying her hands and feet.

The singer sang on with a rose in her hair,
And all men listened to her sweet tone;
And the spinner spun on with a dull despair,
Down in her heart as she sat alone.

But, lo! on the morrow no one said
Aught of the singer or what she sang.
Men were saying, "Behold this thread!"
And laud the praise of the spinner's range.

The world has forgotten the singer's name—
Her rose is faded, her songs are old;
But far o'er the ocean the spinner's fame
Yet is emblazoned in lines of gold.

A Letter from Walnut.

Friends of the Home Circle, we propose the following question for debate, "Resolved, That the signs of the times indicate the downfall of the United States." As the leader of this debate, we will open on the affirmative side, and then, in two or three months give the closing arguments, and such comments as may be needed.

What are these "signs," that indicate the decline and decay of our glorious country? Is it true that our nation is destined to witness an ignominious fall, instead of the proud position as head of the nations of the earth? Is it true that we are even now, our second century scarce begun, sowing the seeds of discord, corruption and decay, which shall finally strand us?

Let us, then, as patriotic American citizens, carefully and candidly examine these "signs," and see if there is aught of truth in them; if so, then let us live, and so vote, as to cast our whole influence on the side of right, truth and justice. History teaches us that all ancient nations have had their rise, their zenith of power and glory, and their decline, and the cause of the decay of these grand old nations, we think due to the corruption of the mind and heart of their citizens.

Greece, when she had reached the height of her glorious career, became an easy prey to the sturdy, valiant young Romans, because of the corruption of her government; her people.

The vast and once powerful Roman Empire fell without a struggle when the hords of half savage Huns or Goths spread all over the country like a flood. Had they maintained their integrity, and the patriotic spirit of the early Romans, Rome might still be a nation among nations; but prosperity was too much for her people; a long series of success in war, in statesmanship, in civil life, had demoralized and corrupted the people, and they fell. Shall we?

The chief danger to us, also, lies in the moral corruption of the masses, and we wish to dwell upon a few causes, which have a tendency to this effect.

The first point, of a corruptive nature, to which we invite your attention, is that of the "literary trash"—dime novels, vulgar sensational story papers, etc.—with which our country is deluged. These have a terribly demoralizing effect on the minds of the boys and young men who read them; and we regret to say, that even girls and women indulge in the mind and soul poison. Those of you who have never lived in a large city, can have no idea of the immense volumes of the wretched stuff which are read, nay, devoured by the lower classes of society. You who have lived comparatively pure lives; you who love nature, and read nothing but the choicest of standard authors, cannot conceive how others can like such "trash," but please remember, that it is a habit acquired when young, with some, as "getting drunk" is, with others. Parents often set the example, and of course their children follow.

We were once canvassing for an excellent agricultural journal, and met a farmer—an acquaintance—on the road; we stopped him, showed the paper, and asked him to subscribe; he merely glanced at it, with a look of disdain, and replied, "I'd rather have my family read the New York Ledger than the Bible." What kind of home training do you think the children of such parents would receive? What kind of citizens will they make, with their mind thus warped, dwarfed and poisoned? O! it is terrible, it is appalling to think of the multitude of homes, where children are thus trained, how much is lost to them of real usefulness, of joy, of happiness. Is not this worth the attention of our new post-master general, in suppressing the vile stuff in the mails?

Our next point, is that of the manufacture, sale, and use of intoxicating liquors as a beverage, which some one aptly called "the gigantic crime of crimes." Intemperance is certainly the direct and indirect cause of nine-tenths of all the crime committed—of all the woe, and misery, and suffering, and disease; many accidents, attended with loss of life and property, may be traced to the door of the saloon-keeper. Intemperance is the source that fills our jails, prisons, penitentiaries; our poor-houses, work-houses, and hospitals; our asylums for the imbecile, insane, and the orphans; our courts of justice, criminal courts, and—lawyers' pockets; and

60,000 drunkards' graves, annually. Intemperance involves the cost of these prisons, asylums, and poor-houses, and the expense of keeping them—of feeding, clothing and housing the inmates. The expenses of policing large cities; of watchmen for breweries and distilleries; of collectors for collecting the revenue on liquors, is in the aggregate, an enormous sum, larger I believe, than the receipts from license and revenue on liquors combined.

All these, prohibition would prevent and save, for "an ounce of preventive is better than a pound of cure," and is just as true in law, as in medicine.

We cannot do this subject justice in this letter, but we wish to call your attention to the corruption, and the corrupting tendencies of intemperance, as one of the arguments on this question. Not only are those who indulge in this habit corrupted thereby, but their children, their friends, and their associates are all more or less contaminated. It is the effect of all this upon the future of our nation, that concerns us now.

Our next "sign" is, foreign immigration.—Uniting with intemperance like the branches of a great river, it forms a larger stream of corruption. I fancy some of my readers will be surprised at the mention of immigration; but just wait; read on.

"Foreign Immigration," as a cause of corruption, we will divide into two parts. First, the influx of the criminal and pauper classes of European countries, which the latter are heartily glad to get rid of. Are not our jails and poor-houses full enough, without inviting the rabble of Europe to our shores? Let the Old World take care of her own criminals and paupers, we have enough already. Suppose some of the bands of desperadoes which hide in our mountain fastnesses, should go to Germany or France, to practice their old games, what a hue and cry they would make over it; worse by far than the recent imaginary discovery of trichinosis in American pork—and yet we fondly flatter ourselves on the rapidity of our increase in population. Alas, and in criminals, also.

Second, that class of our foreign population which congregates in cities, and forms the organized mob—the element of "communism," so contrary to the spirit of our American institutions, which a few years ago, in Pittsburgh and elsewhere, caused such a reign of terror and destruction. That class of foreigners who must have their "lager beer," and revel in their "beer gardens" on every holiday they can get, Sunday not excepted.

This brings us to our next and fourth chief point, "Desecration of the Sabbath," which is closely connected, with the occupant of the "beer garden."

Just here we wish to make a digression: We have no patience with the discussion now going on, as to whether the first or the seventh day is the true Sabbath. It is a pretty small matter at this late day of the world's history, to attempt to change a popular custom, which has been established for ages.

This question has, no doubt, become stale to some, yet, if presented from a different standpoint, it may be readable. We shall omit the Scriptural arguments entirely, for they are capable of such a broad and liberal interpretation that most any one can twist them around to suit himself. Every civilized and christianized nation on this globe, recognizes the first day as its Sabbath. The constitutions of the United States, and of all the separate States, legally recognize the first day of the week. Our Congress and State Legislatures respect that day and no other. All of our courts of justice are closed on that day. All manufacturing establishments, business houses, and schools of learning also recognize the first day of the week. And finally, when we remember that all the leading religious denominations, with their immense membership of intelligent, earnest, devoted christians, unhesitatingly accept the first day, as the Lord's day, while only one or two small denominations, like the "Seventh day Adventists," regard the seventh day as Sunday—which is right, the whole world, or these few?

Now to the point, have these seven-day believers the right to work, or play, or in any manner to desecrate the Sabbath, or first day of the week? Please remember we use the terms "Sabbath" and "Sunday" as synonyms; if there is an error, please correct. We have the right to worship on the seventh day, any other day their conscience may dictate, but they have not thereby the right to violate or desecrate our legal Sabbath. When they do, it becomes a prolific source of corruption. But to return.

The foreign population of our large cities, and especially the Germans, have brought from their native land, some of their old customs—as is natural—prominent among which is the "beer garden," with its reveling, dancing and beer drinking; this, of itself, might not be a serious matter on week days; but, as in the case of Cincinnati, and other cities where Germans predominate, they are able by their very numbers to prevent the enactment of Sunday laws, and thus have things their own way, reveling, carousing, and desecrating the Sabbath to their hearts' content.

The question arises, have these foreigners the right to thus violate one of America's most sacred institutions? We offer them the same blessed rights and privileges of liberty that we enjoy, but not the right to do that which is destructive to our national life—and Sabbath breaking certainly is a most alarming source of corruption.

Poul literature, intemperance, foreign immigration and Sabbath desecration, are all productive causes of political corruption. Gigantic monopolies follow close after, when politicians become base enough to give and receive bribes. Free trade is not a source of corruption, like the above; but if persisted in, will prove our down-fall from the leading position we now occupy, as a prosperous country. All nations who adopted England's fatal free trade policy (fatal for them, not her), have been ruined financially, and industrially. This subject deserves a more extended notice.

We come now to our last chief "sign," a foreign church whose very name is almost a synonym for ignorance, superstition, bigotry and craftiness. Being a religious subject, we decline to discuss it.

There are a number of lesser causes;

we will enumerate some, but not discuss them now, perhaps we may in the future. Bad company, swearing, tobacco, dancing, game fashion, theatres, lotteries, horse-racing, gambling, infidelity, Mormonism, etc. WALNUT.

The Sunday Question.

"My dear child," said a mother to her little daughter one Sunday, "you must put away that doll, positively. You are sewing on its dress!—I am astonished at such wickedness."

"Why, ma, what harm am I doing? why may I not do so to-day?" inquired the child.

"Because God does not love little girls who sew their dolls' dresses on Sunday," was the reply.

The foregoing I read in a popular Sunday-school book, not long since (a sample of the stuff our children read). In one of her later novels Mrs. Oliphant explains why the sons of clergymen and some others go to the bad so soon. Speaking of one of her characters, she says, "this boy had all his life been accustomed to hear trides magnified into great moral crimes. When he grew up he learned better, and naturally included real moral delinquencies in the same class." I wish it understood that I am strongly in favor of the quiet, orderly observance of Sunday as a day of rest. But will some of your correspondents, who are touching on this question, explain to me (and thousands of others) why we are obliged to observe the first day of the week under the commandment to the ancient Jews to observe the seventh day, while at the same time we are not required to observe the tenth day of the seventh month, although it is enjoined in Lev. 23d chapter, 27th verse, e. e., with peculiar solemnity and awfulness as a statute forever? "And whatsoever soul it be that doeth any work on that same day, that same soul will I destroy from among his people. Ye shall do no manner of work. It shall be a statute forever throughout your generations, in all your dwellings."

Now the observance of the seventh day is not so solemnly enjoined, nor is it ordained to be observed forever, yet we have allowed the authority of Constantine, a Roman emperor, to amend and change this command of God from the seventh to the first (see Soman's Church History); and we spend much time and money in teaching our children that they shall hold it sacred, because God commanded the Jews, a few thousand years ago, to observe the seventh day, while we utterly disregard the still more solemn command, to the same people, to observe the tenth day of the seventh month. People will have a good reason for such things as they become intelligent, and they have a right to such reason. I repeat, I would be the last to change this custom, and deny to see it better observed, but I desire to put it on a strong, enduring basis. Let us then know why we must observe the first day because the seventh day was indicated, and why we need not observe that tenth day, enjoined under the awful penalty of death, and enjoined to be a statute forever, throughout the generations in all their dwellings. I know the stereotyped reply that falls so glibly from the tongue of lips, which evades, not answers. For why is this one left, if the old is done away with? Give us authority, and not mere words. C. I.

Letter from Violet.

Listen to the mocking bird! twit, twit, twit, chickwa, chickwa, pere, pere! List to his musical, changeable notes. Even as I write, they float in. Can we not believe that spring is here at last? Yes, after our "long and dreary winter." Yes, 'tis May.

"Maple boughs and tasseled willows
Wake to weave the earth a crown,
Sunbeams o'er the emerald clusters
Cast their golden tribute down."

Dear friends of the Circle, accept my greetings. I have just been wanting to write to the Circle for ever so long, but it seems business before pleasure; and after a siege of house-cleaning in this rainy, sunshiny, April-May weather, I will use this present time, when duties seem not quite so pressing. And then I have felt, like Daisy, there might not be room for me.

Dear Daisy, I am surprised that you call using tobacco a little selfish habit. I feel sure that few gentlemen will claim that. Why do so many try to free themselves from its slavery, if it is so insignificant? Can that be a small habit, which, it has been asserted, costs more than all the bread in the United States? Can it be so small when many of our best schools exclude all young men who practice it? Is it not an established fact that it arrests growth and development? How would a pure, white Daisy look enveloped in tobacco fumes? Would she not be a little sick? As for filthiness, look at half the stove hearths in our land—what a spectacle they present! Ask that tired, over-worked mother, if the additional task of cleaning after it is a small one. How a man should be ashamed to see his wife defile herself trying to clean off his spittle! Is not any young man commencing life worth \$1,000 more without the habit? Will not any woman have more respect and love for a man without it? Daisy, would not you? And it is strange how many of these tobacco users have cancers, even to a woman that I know. It is said that men seldom learn to use tobacco—it is a habit of boys. Dear friends, who have this habit, do not think hard of me for seeming so to speak harshly; for a habit to which so much is chargeable, cannot be a small one, but is, indeed, a serious one, and must stand, as I said, in its

true light—of filthiness, of extravagance, of intense selfishness, and therefore of sin.

Semper Fides, thanks. Widower, as you have explained everything so nicely, I will be silent; thanking you for the first decision about the bill of fare.

How like mirrors of the mind are the letters of the Circle! Lloyd Guyot, in our selection of words the simplest language is, I believe, generally considered at once the most beautiful and the most expressive. Friends, what sort of a church have they at Excelsior that allows its members to dance? Do they permit drinking too?

Minnie F., thanks for your kind words and take pleasure in returning them.

Cousin Charlie, since I have found out how much you run around, I will not accuse you again of surplus funds, as I have noticed those who do so are like the rolling stone which gathers no moss.

Uncle Wesley, I try to harbor no little habits that do not benefit myself or others. In the tobacco habit, your practice speaks louder than your preaching. I am sorry you speak of few having power to quit, as you did, for I believe, by the grace of God, any man can quit.

I appreciate Bro. Am's excellent criticism of Lord Byron. A man's genius, instead of excusing his vices, only makes them more conspicuous.

Lissa, thanks for your excellent selection. VIOLET SHAW.

Converse, Mo.

Some Types and Faculties of Mind.

People, in respect to their prevailing characteristics, may be compared to the leaves one sees in summer. Some of these leaves are volatile, and flutter in the slightest breeze; others are sedate and are moved only by the strongest gale. Some are furnished with delicate fibres and filaments; others are strongly and coarsely made. Some have a taste for display—they bud out in beauteous forms, with ornamental, serrate edges; others have the plain elliptical form only. To carry the comparison a step further, as no two leaves can be found precisely alike, so no two people possess the same mental characteristics, or the same personal appearance. The generic and primary colors of mind are, of course, mingled with many specific and secondary tints, and blendings of tints, no one of which can be exactly defined or determined. A great diversity exists not in regard to mind only, but in regard to all things we can take cognizance of through the media of sense. God is an artist who has painted many pictures—each seems more beautiful than the rest, and none are prototypes.

Phrenologists recognize several distinct types, and thirty-five special functions or faculties of mind. I do not propose to amplify on all these scientific divisions, for there is neither space in this journal nor ability in myself to do so. I shall confine myself to some remarks on several of the predominant types of mind, and special functions incidental to these. Of the phrenological functions, I mention amateness, combativeness, acquisitiveness, self-esteem, cautiousness, benevolence, veneration, conscientiousness, ideality and wits as being, in my opinion, the principal ones. The others are either auxiliary to these, or the faculties of isolated abilities. The more fully developed function in a person's brain determines his chief virtue, weakness, or accomplishment, as the case may be. The blending of all the functions possessed by him makes his general character—which, together with his physical make-up, distinguishes him from the rest of mankind.

The volatile temperament, which is gay and light, sad and depressed, by turns, is one not unfrequently met with. The French, as a nation, are said to be its best exponents. Dutch, as a general thing, have the phlegmatic—the exact reverse of the volatile or sanguine temperament. A friend conceives that this dissimilarity originates in the qualities of food eaten by these people. A Frenchman, dining on frogs, champagne and fancy dishes generally, is consequently agile, frothy and changeable. His Dutch neighbor making a substantial meal of bolognese, Rhine wine and Limburger cheese, is therefore rotund in person, equable in disposition, and strong both in body and in brain.

Wit is an almost invariable accompaniment of the volatile; humor, of the moderately phlegmatic mind. The Frenchman is oftener a wit than the Englishman, the Englishman is oftener a humorist than the Frenchman. Americans, being a mixed up conglomeration of all nationalities, are all things at once. Wit is defined by Webster to be "a felicitous association of objects not usually connected, so as to produce a pleasant surprise." Now, I maintain that this association may be brought about by other means than words. For instance, we see a young person mimicking the actions or tones of an old person. We probably would not laugh at these actions or tones in the old person himself, but the total incongruity of original and mimic, combined with the mimic's exaggerations, causes us to laugh. Perhaps every community has within its bounds one or more of these inexhaustibly funny people, whose fun is continually bubbling up in queer conceits, sharp repartees and practical jokes. Sometimes such people seem to be almost frenzied and carried away by torrents of their own laughableness, and consequently the company is almost continually convulsed with spasms of merriment. They are undoubtedly boons

to humanity wherever they exist, for nothing is a better tonic than hearty laughter. Holmes, in the "Autocrat," says we look on funny people with a sort of pitying superiority—think we condescend in permitting them to amuse us. However, this may be, it is certain that persons who can always raise a laugh are often objects of much secret envy.

Phlegmatic minds, says Hickok, are those best adapted to continuous, severe brain-work. A nervously organized man may, often does, possess more ability than his phlegmatic friend, but the fineness of his organization renders him but illy adapted to sustained, patient investigation. As Germany has produced the greatest musicians, as Beethoven, Mozart and Handel, we conclude that the organ of music is more generally and fully developed in the phlegmatic, modified by the melancholic temperament. An example of the musical person, trained into respectable mediocrity, is the average girl of to-day. Her performances, however, are sometimes like those of a phonograph—the instructor has dinned the chords into her memory, and she by dint of a piano, reproduces them for the aesthetic improvement of her auditors. The writer once heard an exceedingly healthy looking young lady sing these lines to the air of "Silver Threads Among the Gold."

"Something tells me I shall never
See the summer flowers again."

I couldn't help thinking that, in my opinion, she would see them about fifty times, should she live man's allotted space. How often does this irrepressible sense of the ridiculous dispel our fairest illusions? Let no one, however, be discouraged by these slightly sarcastic remarks. Piano music has a beneficial effect in tending to repress the "weak, watery, everlasting flood" of twaddle which amounts to zero, and which is usually indulged in by the average young person. And, besides, it is often worth listening to for its own sake.

Ideality is the poet's and imaginative writer's faculty. It holds more or less sway at all times, and in all nations. Poe's idea in regard to poetry—the flower of ideality—is true. He conceived that poetry's true end is the artistic delineation and praise of the beautiful in any form, although it has been treated to baser objects. Ideality will reappear again and again as long as time exists. It is just as necessary to nations as flowers are to a pleasant landscape. Remove the

"Stars which in earth's firmament do shine," and how tiresome would be the unvaried, prosaic scene! Remove ideality from man, and he would be unpleasant to the God who made him, for he could not, having lost this jewel, be unpleasant to himself. Emerson ridicules the idea of poetry being exhausted; he says its first song has hardly yet been sung. A melancholic mind is pessimistic—thinks the golden age is in the past, and that its time is the leaden age. On account of this peculiar belief, the pessimist lives in an imaginary world, which is peopled with his own ideals. A belief in universal corruption is often induced by many actual and tangibles of which the mind takes cognizance. So we should not be over-ready to condemn those holding such a belief, for all of us are strongly inclined to cynicism and grumbling when our apothecized images are rudely thrown from their pedestals by the hand of reality. The melancholic temperament, according to Hickok, is found in isolated individuals of all nations, rather than as the distinctive characteristic of any particular nation. The Hebrew prophets, as a general thing, were representatives of the melancholic type of character. Some of the grandest poetry of all time past was composed by them. Their compositions abound with striking passages, beautiful similes, awful denunciations of sin and descriptions of its sure punishment. All, perhaps, who have read these prophetic books have been struck by the sublimity of their style.

In concluding these rambling and somewhat lengthy remarks, let me urge all who may read them to cultivate those faculties which make them nobler. I have said nothing of the good and bad faculties. All know them enough. It is not so much what we are made, but what we make ourselves, that constitutes life a success or a failure. Though we are created with bad natures, we may conquer them. Virtue, if never tempted, and the temptation overcome, is a poor thing. Time being the warp in which we weave a woof of good or of ill, let us make the woof beautiful in the eyes of the Master who cometh.

LEMONS FOR SMALL-POX.

An Ironton, Ohio, physician treated himself for small-pox with lemon juice, and reports the process and result as follows: I squeezed all the juice I possibly could out of one lemon into a glass, to which I added about two tablespoons of water, and drank it. I then opened the rind and sucked the balance of the juice. In about twenty minutes I took another lemon, and used it in the same manner. In a short time I felt very cold, as if I were lying in close proximity to a large mass of snow or ice. My pulse had dropped to sixty. I shut my eyes to see if the unpleasant visions were gone. I not only found that they were gone, but by placing my hand upon my head, I found the pox on my head had gone also. My head was bathed with grumous-like fluid which had exuded from the pox. It stained the napkin I had applied to wipe it off. It seemed as if each had given up its contents and wilted down to the level with the surface. The same had taken place with those upon my face. My beard was glued together with the same kind of fluid. Those upon my neck had not burst, but had shrunk away and diminished in size considerably. I laid down and slept two hours comfortably. I awoke, I presume from cold, although I had plenty of cover over me, and a fire well stoked burning in the grate. I felt so well pleased that I took a little more of the juice. I kept my pulse at from sixty to sixty-seven for thirty-six hours, when all eruptions and elevations had disappeared from my skin. I then bid good-by to lemon juice and small-pox. So strongly am I convinced of the power of lemon juice to abate any and every case of small-pox, if administered

as I administered it to myself, that I look upon it as a specific of as much certainty and power in small-pox, as quinine is in intermittent fever. I therefore publish my experiment, hoping every physician having a case of small-pox will give it a fair trial, and report the result to me.

THE SKIDMORE BUTTER.

"The affable and gentlemanly" proprietor of one of our leading hotels had just finished his first forty winks after retiring the other night, when he was conscious of a slight noise under the bed.

"Come out of that or I'll blow you full of Sutro tunnels!" he shouted, as he sat up in bed and cocked his revolver.

"Hold hard! I'm coming!" said the concealed party, scrambling from under the bed. It was too dark to see clearly, but the hotel keeper could perceive a shadowy form arise and lean affable over the footboard.

"What the deuce are you doing there?" roared the incensed steak-stretcher.

"Now, keep cool—take it easy—don't get excited," said the intruder, blandly. "It's all your own fault."

"What the blazes do you mean?" "Why, I have been trying my name is Sliggs, agent for Slingshooting & Slazey, Philadelphia—I've been trying to see you for two weeks. Wanted to show you a patented article of the greatest value to your business."

"Don't want to see any agents—but what on earth do you mean by—?" "I was just going to explain," interrupted the cheeky customer. "I determined to see you at any risk, so I just hid under the bed. You see I wanted to get at you when you had nothing to bother you. Plenty of time to talk, you understand."

"Well, of all the gall!" "I won't detain you a minute," hastily continued the agent. "I am trying to introduce a patented article of butter, and—"

"We've arranged for all the oleomargarine we want," growled the hotelier.

"But this is another article entirely. It's a composition of semi-liquid rubber, colored and manipulated so as to resemble the best clover-fed butter. By its use the boarder of the period can be brought so as not to eat any butter at all."

"Don't believe it," said the dyspepsia aggravator, incredulously.

"But it's a fact all the same," went on the agent, sitting on the footboard and lighting a cigarette. "You see, the guest puts his knife into the butter, and proceeds to butter his bread. That is, he thinks he does, but the rubber merely yields to the pressure of the knife. Instead of the portion being removed it really slides back to the original roll as he withdraws his knife. The boarder imagines he has spread the bread, however, and eats it contentedly. You know how much imagination has to do with these things, anyway."

"Big money saved, if the thing really worked," mused the landlord.

"But it does work," persisted Mr. Sliggs. "There are twenty-six restaurants and four large hotels using it in Chicago. Big success, too. Doesn't give the bread that peculiar—ahem!—peculiar wheel-greasy flavor of regular hotel butter. Besides, there are no nuisances and things. If it wasn't so dark I'll show you a sample that has been in use over eight months. All you have to do is to freshen it up with a little water and a wooden dye once a month, and there you are."

"I'll think over it," said the great American "extra" charger, thoughtfully.

"Do so, and I'll see you in the morning," and after tucking the covers around the landlord's feet and bidding him a cheery good-night, the butter agent unlocked the door and slid out.

Instead of inspecting the new boon to tavern keepers the next morning, the hotel man put in time writing an advertisement for the papers to the effect that if the sneak thief who stole four seal rings, a set of diamond studs, six scarf pins, pair sleeve buttons, gold watch, and fifty-two dollars in coin, from a room in the hotel, would return the jewelry, he could keep the money and no questions asked.—San Francisco Post.

Scraps of Fun.

—Never cry over spilt milk. There is enough water in it already.—N. Y. Herald.

—It is rumored that David Davis has bought Rhode Island and contemplates having it sufficiently enlarged to be utilized as a family burying ground.—Yonkers Gazette.

—It pays to advertise. A Bridgeport man advertised for a lost pocketbook, and when it was returned to him it contained over twenty dollars more than he lost.—Danbury News.

—Spoons with a bowl at each end have made their appearance. The Elmira Gazette thinks an invention that would enable a pair of lovers to eat ice cream with the same spoon has long been needed.

—Jay Gould has at last got to work on a railroad on Mexican soil. And he is a man that never says much about his personal affairs, it is not known who he intends leaving Mexico to, in his will.—Peek's Sun.

—Morse, who invented the telegraph, and Bell, the inventor of the telephone, both had deaf-mute wives. Little comment is necessary, but just see what a man can accomplish when everything is quiet.—Lowell Citizen.

—It's a useless waste of money to go to Europe for pleasure," says a level-headed change. Yes, that's so; as we have always contended. And, besides, it's a miserable, long, sloppy walk for an editor.—Middletown Transcript.

—Have you read the Testament?" asked a Keokuk girl of her bosom friend: "perfectly splendid, and they say it's revised, too, but of course this is the first time the story has ever been published in this country."—Keokuk Constitution.

—An exchange has an article on "Dressing Hogs by Machinery." Now it may be all right to dress hogs by machinery, but suppose the machine should get working to fast, and tear the only pair of pants the hog had on to smithereens, what would the smart inventor do then?—Marathon Independent.

—Mrs. Agassiz found, one morning, in one of her slippers, a cold, little, slimy snake, one of six sent the day before to her scientific spouse, and carefully set aside by him for safety under the bed. She screamed: "There is a snake in my slipper!" The servant leaped from his couch, crying: "A snake! Good heaven! where are the other five?"

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FACTS CONCERNING JAY GOULD.

The other morning while Mr. Cole, the proprietor of the approaching circus and manager of that name, was picking his teeth on the steps of that excellent circus hotel, the Russ House, a tall, sun-burned, baldheaded man, with pine burrs in his clothes and a stick of saffras in his mouth, approached and said:

"Be you the wild animal man, mister?"

The proprietor of the "Double Mammoth Mastodon Aggregation" admitted that such was the fact.

"Then," proceeded the party from the mountains, "I think I'll get you to make me an offer for a large sized healthy California lion I've got."

"Good specimen, eh?" asked the circus man.

"Good? Well, I should say so. Measures eleven feet from the tip of his nose to the tip of his tail. Caught him myself when a cub. Just four years old to-morrow."

"Ham—good appetite?"

"Appetite? Great Scott! Appetite! Well, I should smile—that's just the point—that's just why I'm parting with Jay—I call him Jay Gould because he takes everything in. If it wasn't for his appetite and the queer little things it makes him do, I wouldn't part with Gould for a fortune."

"Savage, eh?"

"Well, no; I don't know as I should call Jay savage, exactly—sorter nibblish though, may be. Has a kinder habit of gnawing up things, so to speak. In fact the neighbors—live up at Bladder's Peak—have gotten to be so fussy and particular of late that I can't so much as unchain J.G. for a little fresh air without their getting grumpy over it."

"There's no pleasing some people," said the hippodromer.

"Should say not. Now, frinstance, about three months after Jay got to be as big as a boarding house sofa, I came home one day from a picnic and found he had eaten up old Aunt Maria, who had been left at home to mind the house—leastwise she was nowhere to be found; and as Jay Gould seemed sorter bulgy-like, and kept coughing up hair-pins and false teeth for a day or two, we kinder suspected the whole thing."

"Maternal aunt?" inquired the showman, thoughtfully.

"Exactly. My wife took on dreadfully at first, and wanted me to shoot Jay right off. But I told her that he probably suffered a good deal as it was, and that as most likely he'd catch rheumatism and things from the remains, we'd better call it square."

"And did she?"

"Well, she kinder got reconciled after awhile, especially as Jay seemed fond of playing with the children. One morning soon after that my wife's mother—whole family lived with me, you see—didn't come down to breakfast. As all her false hair was hanging over a chair back, and Gould crawled out from under the bed licking his chops, and with his tongue a good deal coated—mother-in-law was always taking things for the liver complaint—was at once knew it was another visitation of Providence, and that the heavy hand of affliction was again upon us."

"Looked that way, didn't it?"

"Well, as you may suppose, the old lady—that's my wife—pranced around a good deal then, and got down the breech-loader right away. But just then arrived a gold medal from the S. P. C. A. Society, awarded on account of my forbearance in the Aunt Maria business, and so I got her calmed down after awhile."

"Pacified her, eh?"

"Yes; I managed to arrange a re-trial for Jay, somehow. You see, I was always awful fond of pets, and under hearted, and all that, you understand. I argued that the poor animal didn't know that he was doing wrong—merciful man is merciful to his beast, etc., etc. That smoothed things over for another month."

"What happened then?"

"Well, one day I sent Tommy, down to the store for some sugar, and he took Gould along for company. Now whether it was because Jay was fond of sugar, or not, I don't know, but he came home alone, and as soon as we noticed a peculiar kind of bulge on his ribs, about as big as Johnny, we concluded that the dread archer had marked another Skidmore—my name is Skidmore—for his own. The whole family took on like mad, and Mrs. Skid was about to shove the powder keg under J.G. and touch it off herself, when I pointed out it wouldn't do to desecrate our off-spring's tomb in that way. So I just had the burial service read over the lion and tied arape around his neck for thirty days. How does that strike you?"

"After that you kept the animal chained?"

"Well, no. The fact is I set out to get a chain several times, but one thing and another prevented, until one day that week I actually missed the old lady herself. I looked around for her for a couple of days, when somehow of a sudden I sorter intentioned where she was. I gave Gould about half a pound of meat right away, but all we could get out of him was a pair of high heeled shoes and a chest protector. It was too late! We put the shoes and chest protector in a coffin, and had Jay led behind the hearse to the cemetery. Wanted to have as much of the corpse present as possible—don't you see? We buried the animal all decorated with flowers and things, as fine as you please. I think it was the touchiest thing that ever took place in them parts, and the bereaved husband sighed heavily."

"Don't wonder you want to sell the beast," remarked the menagerie man, after a pause.

"Well, I sorter do, and I sorter don't," said Mr. Skidmore, abstractedly, "there's so many memories and things clustering around J.G.—seems kinder like parting with one's family burying it, though it were. On the other hand, I sorter feel as if the insect had—well, I suppose I just have this box hauled around to your show after the performance this afternoon, and see if we can't strike a bargain."

"All right," said the manager. "I'm going up Salt Lake way after awhile, and perhaps I can work him off for big money to some of the Mormon elders."

"There's a mint of coin in him as a family pet," said the other earnestly. And after striking the circus proprietor for a season dead-head, the widower shouldered his umbrella and drifted sadly down street.—San Francisco Post.

AN INTELLIGENT REPTILE.

"I want to tell you how my child's life was saved up in the mountains the other day," said an old farmer who came into the Appeal office yesterday. "You don't mind an item with a snake in it, do you?" Hearing no reply, the old man continued: "Last Tuesday I was coming down from the lake with my little girl, when I stopped the horse and got out to take a drink at a spring, my bottle having given out. While I was drinking the horse got frightened and dashed down the road with the child in the wagon. I only had twelve girls, sir, and wouldn't spoil the set for worlds. Well, I gave up the horse and child for lost, but I followed them up, and presently found the horse right on the edge of a precipice, at a dead standstill. He couldn't move an inch. When I got closer I thought that a stray had caught round his fetlock and one end had also caught round a tree. I went to pull on the strap, and I jumped about ten feet, for bust me clear open if it wasn't a rattlesnake that was holding the horse. He had wound his tail around the horse's leg and his neck was turned three times around a sapling and his teeth were fast in the wood. He was twelve feet long, sir, for I measured him right then and there. A few pounds more strain would have snapped the snake clear in two. I got the horse away from the precipice. And I might as well tell you the whole truth. The snake wasn't over five feet long, for when I took the strain off he came back to his natural size. You know how elastic a snake is. The girl is four years old and wasn't frightened in the least. If you put this item in the weekly, send me four copies—I want 'em for relatives in the east."—Carson (Nevada) Appeal.

The Dairy.

Bitter Butter.

EDITOR RURAL WORLD: Does it not look strange, that amongst the countless butter makers of the past, none have ascertained to a certainty the precise cause of bitter butter, or, if they have, never made it public, that others might avoid its make and the loss it incurs invariably to the maker. There seems no doubt about its being a purely winter product. Ragweed, unventilated milk rooms or cellars, unclean vessels, etc., as some communications in your paper mentioned, have nothing to do with particular winter bitterness, but they will cause poor butter to be made, and should be avoided. On being satisfied it was exclusively a winter product, I concluded that amongst Wisconsin dairymen, if anywhere, its cause could be found. I offered a reward for the same at the Wisconsin State Fair, but to my surprise found that the reward was given positively useless.

To my mind some communications in your paper have come near the mark. Mr. Wait, for instance, Mrs. Ray Green, of Lyndon, Ill., and Wildredge, of Indiana, give useless and confirming information.

Let this matter be followed up carefully and by next winter the RURAL WORLD can tell dairymen what ages past failed to do, simple, though it may be—and that is just why, and under what conditions they are bound to make bitter, or good sweet butter only.

The question seems to be what particular stage of cold and other combination produces it. Is the acid alcohol or whatever it may be, found in the milk, the cream, after skimming, or in the churn while churning?

The temperature in some of the submerged plans ranges, I think, between 40 and 50 deg., but it produces no bitter butter, so that it would seem that it requires contact with the cold atmosphere in some way. Again we find, through Mr. Wait, that salt stirred in the cream is said a partial preventive. Wildredge says, salt the cows twice daily.

Now, it is some time since I found salt figured largely in preventing it, and consequently recommended its constant use to many who were so troubled. It may be important to add here, I have found heavy feeders, especially of corn, or corn-fodder had most bitter butter. If so, does it follow then that corn and such feed gives heated, feverish or alcoholic property to the milk, more easily acted on by certain conditions of cold, which salt to the cows, or in the cream, counteracts to a certain extent.

It seems to me that some of our scientific gentlemen might take hold of this matter here and help us out at once.

Mrs. Green says that thick cream milk never gives bitter butter (and I can say from experience that she makes as good and well flavored butter as most of them) which is another important point. I notice several seemed to think themselves entitled to the premium I offered. I think, so far, Mr. Wait has the strongest claim. I shall be glad to see many others give their views, and trust the RURAL will kindly publish them.

W. N. TIVY.

Churning Cream.

The question which yields best butter, sweet or sour, is thus spoken of by O. S. Bliss, secretary of the Vermont Dairymen's Association: "It seems to me that in this, as in most other cases, the old proverb, 'safety lies in a middle course,' is appropriate. That the aroma of butter, which goes very far to establish its selling value among the best class of customers, is due to a certain amount of decomposition of some of the elements of the milk, I think is established beyond controversy. So far as I can learn by most diligent inquiry, all of the sweet-cream butters having keeping qualities are made by a process admirably calculated to develop the acidity to a very considerable extent. They are churned slowly; the butter granules are then separated from the milk by the use of cream—no water or brine being allowed to come in contact with the butter at all. The conclusion which I have reached as the re-

sult of a thorough investigation of the subject is that the cream process is only adapted to small establishments, where the more scrupulous care and the most unremitting effort may be secured; and that on the other hand, the souring should not be permitted to go beyond the first stages before the cream is churned. I do not believe sweet cream butter making will ever be popular or profitable in this country, but I do believe that the nearer we can get to it without actually adopting it the better will be the results.

Milk Houses.

The following from an article by Mr. J. Wilkinson, and published in the Kansas Farmer, contains some excellent ideas and is worthy of practical experiment.

My experience, and that of my numerous clients, denizens of fourteen States of the Union, having taught us the soundness of all claimed in the two papers quoted, I have practiced them in my dairy-architectures.

I finally decided that an apartment for setting milk for creaming, for storing butter and cheese, or for the manipulation of the latter, must be so constructed that no air could enter it, other than that specially supplied, and that must be of a proper temperature, and must be perpetually changing and absolutely pure. These desiderata conditions I never secured until I conceived the theory of sub-earth ventilation, from which my patrons are now realizing even more than my most sanguine hopes ever expected while the plan was yet untried, or in its incipency. I found it necessary to so construct the buildings or apartments to be used for the purposes enumerated, that I could not exclude the surrounding atmosphere, temperature. This not only involved perfectly close construction, but the insulation of the enclosed atmosphere of the building from the external air, in a manner that solar heat in the latter could not penetrate the walls, ceilings or cellar floor by connection, affect the temperature of the building—nor through the same medium heat in the enclosed air could escape into the open.

After spending years, and much money in experiments aiming at perfect insulation, testing almost all kinds of filling-in material in the chambers in the walls, etc., I finally discovered that a chamber or space simply filled with dry air was the only practical non-conductor and insulator yet discovered. I also soon learned by experience that air, however dry it might be when confined within a close chamber, constructed by any material then obtainable, would soon absorb moisture, and in a moist state it became a conductor of heat, hence, was a poor insulator. This led me to seek a material that was both air and vapor proof.

The law of demand and supply, which is only limited by the supernatural, soon applied me with what I required and the demand for such material was at once great, and has been, and still is greatly increasing—for architects have learned that even in the construction of ordinary dwellings, the insulation described is economical, and in hot climates as well as in cold, it is luxurious.

Even with the good and suitable material that was supplied for insulating partitions, ceilings, walls and floors, no pretentious method was known of making close joints in the material, the best of which is called concrete. I found that demand supplied the want, and we are now able to construct an absolutely close apartment or building, by which, and a practicable method of obtaining and maintaining a supply of dry air in insulating chambers, regardless of the thermal, or the hygrometric condition of the external air.

This was conceded to be a grand and unprecedented achievement, and an inestimable one as well, for it has already saved 40 or 50 per cent. of the fuel hitherto consumed in buildings located in cold climates, in the construction of which thorough insulation has been applied. Architects and builders everywhere have been groping in the dark, and chasing in deep water, until of late, in their attempts at insulating buildings. They overlooked the cardinal characteristic in all good and efficient, well-insulation, viz., absolute closeness.

Fabulous sums of money have been wasted in material and labor, in futile attempts to insulate ice-houses and other buildings, by those who were ignorant of what I have emphasized as a leading essential in this branch of architecture. Another characteristic equally, if not more important, has been and is still unheeded, because it is unknown, in the construction of insulated buildings.

I refer to the silly practice of omitting the insulation in foundation walls. If the foundations are not insulated, frozen earth lying against them will continually conduct the heat in the atmosphere of the cellar and give it off to the rapidly conducting frozen earth, and will dissipate heat, so valuable, and so expensive to generate, that proper insulation will effectually prevent. The highest temperature in the air of a heated building will continually find its way by conductivity in natural diffusion, and by the circulation in the confined atmosphere, to the upper ceiling, and if insulation is there omitted, the waste of fuel for maintaining a comfortable temperature in the building will be many fold greater than those who have not investigated the subject can be made to believe.

The material required for insulating buildings is not so expensive but that it is worth, when properly applied, many fold its cost, and its application does not involve skilled labor. A common laborer of average judgment, if he will be faithful, can apply it as well as a carpenter.

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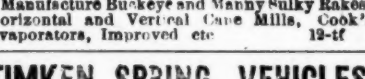
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Horseshoer and Farrier. Road and Track work a specialty. 2717 Franklin Avenue. 32-72

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Composed largely of powder, the Best and CHEAPEST Lubricant in the world. It is the best because it does not gum, but forms a highly polished surface over the axle, reducing friction and lightening the draft. It is the cheapest because it costs less than inferior brands, and one box will do the work of two of any other Axle Grease. It is equally good as well for Carriages, Harnesses, Trunks, Trunks, Trunks, Trunks, Trunks, etc., etc., as for Wagon Axles. It is GUARANTEED to contain no Petroleum. For sale by all first-class dealers. For our Pocket Guide and full particulars, send for free. **MICA MANUFACTURING CO.** 31 Michigan Avenue, Chicago, Illinois. 16-26

Plymouth Rocks
A few pairs or trios of choice Plymouth Rock fowls for sale. Also eggs from choice breeding stock at 93 per setting of 13. Address
COLMAN'S RURAL WORLD,
St. Louis, Mo.
I offer for sale a large number of Light Brahmas Partridge C. Chans, Plymouth Rocks, White Leghorns, Aylesbury Ducks, etc. Eggs put up to go safely after March 1st. Established 1871. Circular free. G. W. PLEASANTS Wright City, Mo. 5-17

From Southwest Missouri.

COL. COLMAN: I will drop you a few lines from Jasper Co., Mo. Last winter you published the sales of stock sold at the National yards, also the name and place of the party shipping and the price each one received, but for some time you have failed to do so. I do not know what interest others may have had in that one little column, but to me it alone was worth the full price of your paper. It enabled stockmen to see just what price shippers got for their stock, the name of shippers, and where the best grade of stock came from, and none of us are so small and penurious as not to be willing to allow the shipper a fair profit, and that is all he should ask. Jasper county never looked better. Farmers are all doing well, and no grumbling. Harvesting just begun. Wheat will be an average crop, take the county over; as I have been over three-fourths of the county within the last two weeks, I know what I say. Farmers had trouble with their seed corn not coming up well this spring, hence a great deal of second planting, and it is small yet. This should be a lesson for farmers to remember and save their seed corn in the fall. All other crops in the county look well, but as we had no spring this year, old winter leaped right into the lap of summer. Every one is still behind with spring work, consequently there will not be as much improvement done on the farms this year as there would have been otherwise. All kinds of stock bear a good price. Land is advancing and a great deal changing hands, except in the northeast portion of our county, where you can scarcely find a farmer that wants to sell his farm at all. They are all satisfied to stay where they are, and well they may be. For take the north and east part of Jasper Co., a part of Barton, Dade and Lawrence counties, and there is a larger body of good land than in any other part of Missouri that I have been in. The southwest portion of Jasper Co. is still producing immense quantities of lead and zinc ore, and take the county over we have a prosperous people, everybody happy.

The sheep interest is growing rapidly in this county, and while we are not getting as good prices for our wool as last year, yet the present prices pay us well, I know from experience as I have six hundred sheep. So much then for the county.

As for Carthage, the county seat (the queen city of the southwest) it is improving very fast. The branch of the Mo. Pacific R. R. starting at Pleasant Hill, and running south through the center of the border tier of counties, and passing through this place, has given a new impetus to the town. We have good gas works and are now erecting water works in the city. The manufacturing interest has just begun anew—situated on the south side of Spring river having abundance of water power for all purposes, there is no drawback. Spring river is a beautiful stream, as clear as crystal and as healthful as the well of St. Keyne.

I have just returned from a trip through the counties of Bates, Vernon, Barton and Jasper. They are filling up rapidly, and the towns of Butler, Rich Hill, Nevada, Lamar and Carthage, are undoubtedly the best towns of their size and more improvements going on in them at the present time, than any other towns in the State. A few years ago the immigrants would pass through these counties for Kansas; now they are coming back and many of them locating here. They found out their mistake after so long a time. Twelve years ago I came west landed at Brownsville, Nebraska, and have lived and sojourned in nearly all of the border tier of counties in Mo. from there to this place, and I would say to all coming west not to be satisfied until they see this portion of the State. It is true what may be pleasing to some may be obnoxious to others, but taking all things into consideration I believe that southwest Mo. is the favored land, and if we are only industrious, peace and plenty will lie at every man's door. But I forget myself; it is short letters you want. Well excuse me this time; I will be more brief in my next letter—if this one is of any consequence. I hope to meet you sometime in Carthage for I know you would enjoy a visit to this place. The last and only time I met you was at Nevada, Vernon Co. I kept a hotel at the time, and you made some remarks about a landlord of a hotel taking the RURAL WORLD, but I found it was read more by any one paper I kept on my table, and by men you would think it would not interest; and no landlord, I care not where the hotel may be located, could spend \$100 in any way that would benefit the public more, or add more to the entertainment of his guests, than to furnish them with the RURAL WORLD to read. I have taken it since that time and when I get through with it, it goes on file or is sent to some friend in the east, who is always anxious to read it. Now wishing you and the RURAL WORLD many years of life and prosperity. I am yours truly,

JOHN DERMOTT.

Carthage, Jasper Co., Mo. June 10, 1881.

Rescued from Death.

The following statement of William J. Coughlin, of Somerville, Mass., is so remarkable that we beg to ask for it the attention of our readers. He says: In the fall of 1876 I was taken with a violent bleeding of the lungs followed by a severe cough. I soon began to lose my appetite and flesh. I was so weak at one time that I could not leave my bed. In the summer of 1877 I was admitted to the City Hospital. While there, the doctors said I had a hole in my left lung as big as a half dollar. I expended over a hundred dollars in doctors and medicines. I was so far gone at one time a report went around I was dead. I gave up hope, but a friend told me of DR. WILLIAM HALL'S BALM FOR THE LUNGS. I laughed at my friends, thinking that my case was incurable, but I got a bottle to satisfy them, when to my surprise and gratification I commenced to feel better. My hope, once dead, began to revive, and to day I feel in better spirits than I have the past three years.

"I write this hoping you will publish it, so that every one afflicted with Diseased Lungs will be induced to take DR. WM. HALL'S BALM FOR THE LUNGS, and be convinced that CONSUMPTION CAN BE CURED. I have taken two bottles and can positively say that it had done more good than all the other medicines I have taken since my sickness. My cough has almost entirely disappeared and I shall soon be able to go to work." Sold by druggists.

Over 165,000 Hows Scales have been sold. Send for catalogue to Borden, Sellick & Co., general agents, St. Louis, Mo.



This beautiful clock, an ornament to any room in cottage or mansion, is given as a premium to any one who sends us twelve new subscribers for one year. We have sent out hundreds of them for premiums; some of which have been running for several years, and all keep accurate time, and give unbounded satisfaction. Every one who reads this can get up the club and get this excellent clock free.

The Oleomargarine Bill.

The following is the Oleomargarine bill which has recently passed the New York Legislature. Dairymen of all sections will be pleased to notice its stringent provisions in the protection of one of the most important industries of the nation. It is to be hoped that every State in the Union will enact such legislation as shall prevent any further oleomargarine frauds.

Section 1. No person, persons, firm or corporation manufacturing any article or substance in semblance of natural butter or natural cheese not the legitimate product of the dairy, and not made exclusively from milk or cream, or both, with or without any coloring matter or sage, but into which any animal intestinal, or offal fats, or any oils or fats of any kind whatsoever not produced from milk or cream, or into which melted butter lard or tallow shall be introduced, shall add thereto or combine therewith any annatto or compounds of the same, or any other substance or substances whatsoever, for the purpose or with the effect of imparting thereto a color resembling that of yellow (or any shade of the same) butter or cheese; nor shall they introduce said colored matter into any of the articles of which the same is composed.

Sec. 2. No person, persons, firm or corporation shall deal in, sell, expose for sale or give away any article or substance in semblance of natural butter or natural cheese described in the first section of this act, and known as oleomargarine or imitation butter and lard or imitation cheese, and no keeper of any hotel, restaurant, boarding house or any other place of public entertainment shall keep, use, or serve, either as food for their guests or for cooking purposes, any such imitation butter or cheese which shall contain any of the coloring matter therein prohibited, or be colored contrary to the provisions of this act.

Sec. 3. No person, persons, firm or corporation shall manufacture, deal in, sell or expose for sale any article or substance in semblance of natural cheese not the legitimate product of the dairy, and not made exclusively of milk or cream, or both, but into which any animal intestinal or offal fats or oils of any kind whatsoever not produced from milk or cream, shall be introduced, unless the words "imitation cheese" shall be plainly stencilled, in plain Roman letters at least one inch in length with durable paint, upon opposite sides of each and every cheese, and also upon the outside of top, and opposite sides of each and every box containing the same, in letters and with paint as before mentioned and described.

Sec. 4. For the purposes of this act the terms "natural butter" and "natural cheese" shall be understood to mean the products usually known by these names, and which are manufactured exclusively from milk or cream, or both, with salt and rennet, and with or without coloring matter or sage.

Sec. 5. Every person, firm or corporation violating the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than fifty dollars (\$50) or more than \$200, or by imprisonment in the county jail for not less than ten or more than thirty days, or by such fine and imprisonment for each and every offence, in the discretion of the court, one-half of such fine to be paid to the complainant, the other half to be paid to the officer or officers having charge of the poor fund of the town, for the support of the poor, or if the poor of such town are supported by the county then said moneys shall be paid to the officer or officers having charge of the poor fund of the county in which said town is located, to be used for the support of the poor of such county.

Sec. 6. This act shall take effect on the fifteenth day of July, eighteen hundred and eighty-one.

URBANA, O. June 20th, 1881.

COL. COLMAN: We have engaged Col. J. W. Judy, to cry our sale instead of Col. Muir. Please correct in your next issue. Yours truly, A. C. JENNINGS & Co.

MUCK.—This valuable material for the barnyard, stable and compost heap, can be dug with the greatest ease and profit at this season. It may be drawn out into a heap near you, with a team and a dump scraper, where it can get dried out, and afterwards be drawn to the place where it is to be used.

There is a diversity of opinion among the farmers of the state, in regard to the propriety of hilling up potatoes during their cultivation. Our experience is, that when potatoes are planted on rich mellow land, that they don't require so much earth around the crown of the hills, as when planted in clayey soils, and even then if planted deep and the land thoroughly ploughed to the depth of six or eight inches, the hilling up is unnecessary. The early varieties, such as the Beauty of Hebron, Early Ohio, Early Vermont, and Early Rose, do not throw the tubers all over the ground, but they grow near the surface in and around the bottom of the stalks, and it is desirable that there should be sufficient earth over them to prevent their growing out of the ground.—Ex.

An Old Lady writes us: "I am 65 years old and was feeble and nervous all the time, when I bought a bottle of Parker's Ginger Tonic. I have used a little more than one bottle and feel as well as at 30, and am sure that hundreds need just such a medicine." See advertisement.

Sorghum in Texas.

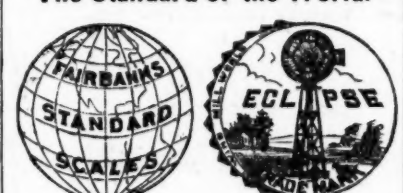
COL. COLMAN: I saw the proceedings of the Cane Growers' Convention and became interested in sorgho. I wrote to Henry B. Richards of LaGrange, Texas, and procured seed of the Early Amber and the Early Orange varieties. The Early Amber is now nearly ready for the mill, while the Early Orange will be later by three weeks and was planted the same day, viz: March 25th. The Early Orange has produced much the largest canes, and the juice from it seems sweeter than from the Early Amber. When I grind the cane, I will report further through the RURAL WORLD. C. CARNSER.

Victoria, Texas.

The Daphne odorata will not often bloom until three years old or upwards. It should bloom in the winter, and a little liquid manure, or better still, waterings with ammonia and water, will force its flowers. Put a tablespoonful of spirits of ammonia into a gallon of hot water, and sprinkle the whole plant with it. It is an excellent fertilizer for all plants.

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The noted Western Outlaws. By Hon. J. A. Dacus, Ph.D. A true and thrilling account (illustrated) of their bold operations for 15 years in 20 States and Territories, baffling detection and officials of the law. Best-selling Book of the year; 50,000 sold in 9 months; 50 cents for outfit \$1.50 for sample copy. Liberal terms to agents. THOMPSON & CO., Publishers, 520 Pine street St. Louis, Mo. 16-13

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St. Louis University, 324th and 3rd streets, commences Wednesday Oct. 12th. Course of study two years. Genuine diploma. Entrance examination. Send for circular on examination. Tuition \$40 per term. Students. Address HENRY HITCHCOCK, St. Louis, Mo. 25-26a-W

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strawberries, three of the largest and best a fifty cent per dozen or \$1.00 per hundred. Address COLMAN'S NURSERY, St. Louis, Mo.

25-26a-W

Young Short Horn Bulls.

The undersigned has two young Short-Horn Bulls for sale. Both fine fellows. Deep red in color, and low, broad and blocky.

J. H. ALLISON.

Butler, Bates Co., Mo. 2½ miles west of town.

24-2

E. T. Hollister & Co.,

Fruit and Produce

Commission Merchants,

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18-52

For Sale

Jersey bull No 181, A. J. C. C.

LUCIEN E. CLEMENT.

Greenville Ill.

25-3

Trotting Stallions

Will stand at the stables of the St. Louis Nursery on the Olive street road, five miles west of St. Louis Court House, for the season of 1881, the following stallions:

SETH WARNER,

by the famous Eban Allen, who trotted in double harness and best Dexter in three straight heats, in 2:15, 2:16 and 2:18. Dam the equally famous old mare, Songer, by Harris' Hambletonian, he by Bishop's Hambletonian, son of imported Messenger. Songer hauled three hundred pounds to wagon and beat Flora Temple in 2:31. Seth Warner is a fine specimen of the pure horse, being sixteen hands high, and one of the finest formed and most stylish trotting stallions in the country. Though never regularly trained, he has showed better than 2:30, and is a remarkably level-headed, easy-gaited trotter.

MONITOR,

by Merchant, son of Belmont. Merchant's dam, Lady Mambles, by Mambino Chief. Monitor's dam the premium fast trotting mare Trojan, also known as Kate by Trojan. She has a record of 2:36, but has shown better than 2:30. Trojan is full sister in blood to Ella Wright, record 2:24½. Trojan was by Jackson's Flyer Cloud, by Vermont Black Hawk; Flying Cloud's dam by Andrew Jackson, the founder of the Clay family of trotting horses; Trojan's dam the famous old trotting mare Lady Salisbury by old Abdullah the sire of Kyndick's Hambletonian.

Monitor is four years old; color black; will be fully sixteen hands high, and is one of the most promising trotters in the country. In less than sixty days after being broken he won a match race for \$2000, over C. L. Hunt's Cash Boy, last fall, distorting him in a jog.

Both the above are standard bred trotting stallions under the sanction of the National Association of Trotting Horse Breeders, and both are entered in the Register of Standard Bred Trotting Horses of that association.

Trotters for either of the above stallions, only \$5 the season. Mares not proving in foal returned free next year. Pastureage \$1.50 per week. Mares returned to us from the free.

For further information address

C. D. COLMAN,

St. Louis, Mo.

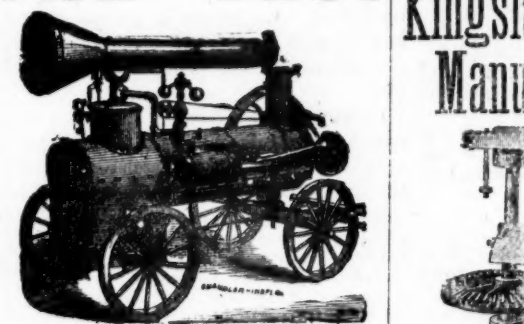
D. HARTER'S

GENTLEMEN: I was suffering from general debility to such an extent that my labor was exceedingly burdensome. A vacation of a month did not give me much relief, but on the contrary, was followed by increased prostration and sinking chills. At this time I began the use of your IRON TONIC, from which I realized almost immediate and wonderful results. The old energy returned and I found that my natural force was not permanently shunted. I have used three bottles of the Tonic. Since using it I have done twice the labor that I ever did in the same time during my illness, and with double the ease. With the tranquil nerve and vigor of body, has come also a clearness of thought never before enjoyed. If the Tonic has not done the work, I know not what. I give it the credit.

(The Iron Tonic is a preparation of Ferrous Pyrophosphate of Iron, Potassium Bicarbonate, and Phosphoric Acid, associated with the Vegetable Aromatic. It serves every purpose where a Tonic is necessary.)

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Remember! This Tonic cures drunkenness, is the B of Family Medicine ever made, entirely different from Bitters, Ginger Preparations and other Tonics, and combines the best curative properties of all. Buy a bottle of your druggist. None genuine without our signature on outside wrapper. Hiscox & Co., Chemists, New York.

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Tents, wagon covers, tarpaulins, awnings, heavy folding camp chairs and camp stools; bed bags, oil clothing, rubber coats, blankets, ponchos, etc. Pauline for covering machines, hay and grain stacks. 10x12, with ten metal eye-lets in each side, \$12.50; 8x10, \$8; all other sizes in same ratio.

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within a mile of city of 800, which is now growing having three railroads, good stock range, A No 1 Barn 40x50, good house of 5 rooms, 8 acres highly cultivated rich soil, two large silos with pumps. Milk sold for cash. Place sold at cost of buildings. Satisfactory reasons. Half cash if desired. Milk business thrown in. Address, D. A. PRESTON, Joplin, Mo. 24-1

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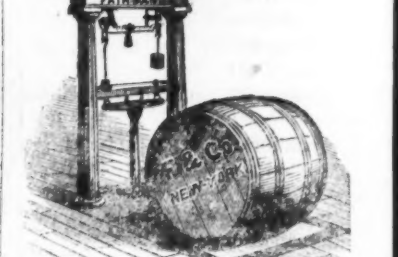
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